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Bulletin of  
The University of Minnesota

THE COLLEGE OF  
EDUCATION

1916-1917



VOL. XIX. NO. 13. AUGUST 1916

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Minneapolis, Minn.

The Bulletin of the University of Minnesota is issued as often as twice a month during the University year.

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Minneapolis, Minnesota.

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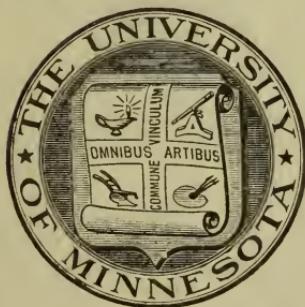
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# Bulletin of The University of Minnesota

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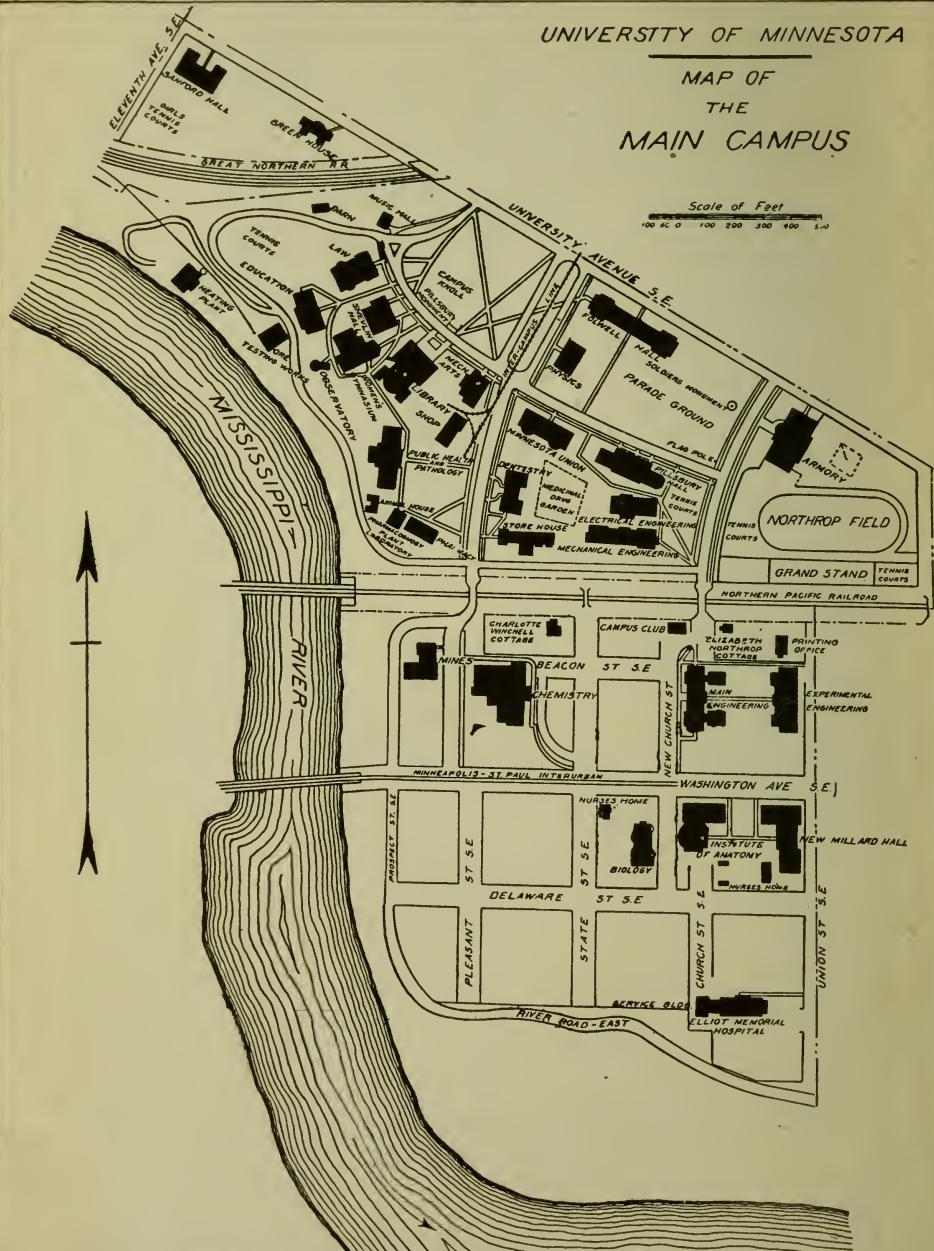
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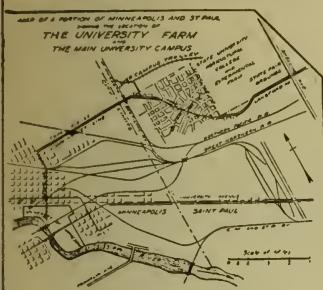
UNIVERSITY OF MINNESOTA

MAP OF  
THE  
MAIN CAMPUS

Scale of Feet  
100 60 0 100 200 300 400 500



Area of Main Campus, 108.5 acres

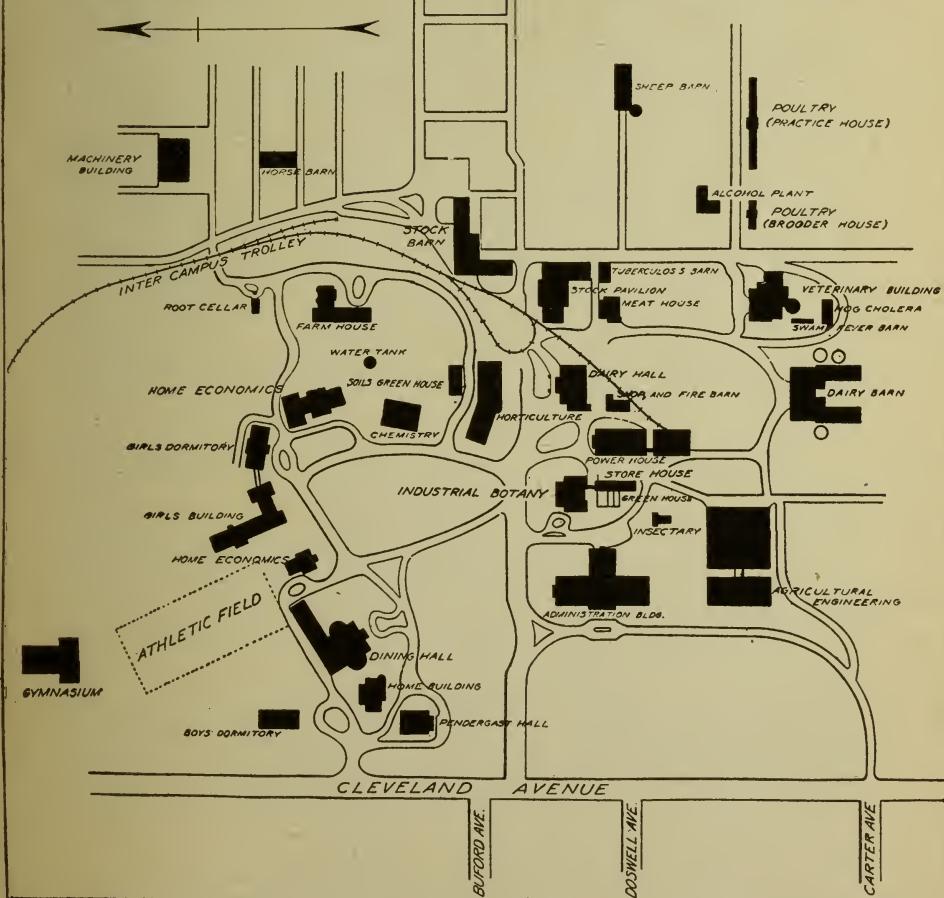


## UNIVERSITY OF MINNESOTA

### MAP OF THE CAMPUS OF THE UNIVERSITY - FARM

Scale of Feet

100 50 0 100 200 300 400 500



O. S. Zelner.

Area of University Farm, 422.56 acres

1916							1917														
JULY							JANUARY							JULY							
Su	Mo	Tu	W	Th	Fr	Sa	Su	Mo	Tu	W	Th	Fr	Sa	Su	Mo	Tu	W	Th	Fr	Sa	
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2	3	4	5	6	7	8	7	8	9	10	11	12	13	8	9	10	11	12	13	14	
9	10	11	12	13	14	15	14	15	16	17	18	19	20	15	16	17	18	19	20	21	
16	17	18	19	20	21	22	21	22	23	24	25	26	27	22	23	24	25	26	27	28	
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<b>31</b>	..	..	..	..	..	..	..	..	..	..	..	..	..	30	31	..	..	..	..	..	

## UNIVERSITY CALENDAR

1916-1917

The University year covers a period of thirty-eight weeks. Commencement Day is always the second Thursday in June.

### 1916

September	13	Wednesday	Registration closes except for new students
September	13-20	Week	Fees payable except for new students
September	19-26	Week	Examinations for the removal of conditions (except Colleges of Agriculture and Forestry), entrance examinations, registration of new students, and payment of fees.
September	27	Wednesday	First semester begins
October	2	Monday	Agricultural College, farm experience examinations
October	2	Monday	School of Agriculture, first term begins
October	5	Thursday	Senate meeting, 4:00 p.m.
November	6	Monday	Dairy School opens
November	7	Tuesday	Election day; a holiday
November	22	Wednesday	Medical School second quarter begins
November	29	Wednesday	Thanksgiving recess begins 9:00 p.m.
December	2	Saturday	Dairy School closes
December	4	Monday	Thanksgiving recess ends 8:00 a.m.
December	4-9	Week	Second semester condition examinations, Colleges of Agriculture and Forestry
December	4-9	Week	Short course for ice-cream makers
December	7	Thursday	Senate meeting, 4:00 p.m.
December	22	Friday	Christmas vacation begins 9:00 p.m.
December	22	Friday	School of Agriculture, first term closes

### 1917

January	1-6	Week	Farmers' Short Course
January	3	Wednesday	Christmas vacation ends 8:00 a.m.
January	3	Wednesday	School of Embalming begins, eight weeks' session
January	9	Tuesday	School of Agriculture, second term begins
January	24	Wednesday	Second semester registration closes, except for new students
January	29	Monday	Final examinations begin
January	31	Wednesday	Payment of fees for second semester closes, except for new students
February	1	Thursday	Senate meeting, 4:00 p.m.

February	5-6	Monday-Tues.	Registration and payment of fees for new students
February	7	Wednesday	Second semester begins
February	12	Monday	Lincoln's Birthday; a holiday
February	22	Thursday	Washington's Birthday; a holiday
March	28	Wednesday	School of Agriculture closes
April	2-7	Week	Junior Short Course
April	5	Thursday	Easter recess begins 9:00 p.m.
April	11	Wednesday	Easter recess ends 8:00 p.m.
April	11	Wednesday	Medical School fourth quarter begins
April	16-21	Week	Condition examinations in certain colleges
May	1	Tuesday	Traction Engineering Course begins
May	3	Thursday	Senate meeting, 4:00 p.m.
May	30	Wednesday	Memorial Day; a holiday
June	1	Friday	Final examinations begin 2:00 p.m.
June	9	Saturday	Second semester closes
June	10	Sunday	Baccalaureate service
June	11	Monday	Senior Class Day exercises
June	11-18	Week	Military Encampment, Fort Snelling
June	13	Wednesday	Alumni Day
June	14	Thursday	Forty-fifth Annual Commencement
June	15	Friday	Summer vacation begins
June	18	Monday	Summer Session begins

The University year for 1917-1918 will begin Tuesday, September 18.

# THE COLLEGE OF EDUCATION

## FACULTY

GEORGE EDGAR VINCENT, Ph.D., LL.D., President	1005 5th St. S. E.
CYRUS NORTHROP, LL.D., President Emeritus	510 10th Ave. S. E.
LOTUS D. COFFMAN, Ph.D., Dean and Professor of Education	1115 E. River Road
EDWARD E. NICHOLSON, M.A., Chairman of Joint Administrative Board	914 7th St. S. E.
GEORGE N. BAUER, Ph.D., Professor of Mathematics	1201 E. River Road
WILLIAM O. BEAL, Ph.D., Assistant Astronomer	1082 16th Ave. S. E.
JOSEPHINE T. BERRY, M.A., Professor of Nutrition	2176 Scudder Ave., St. Paul
GISLE BOTHNE, M.A., Professor of Scandinavian Languages	619 9th Ave. S. E.
FREDERICK E. CLEMENTS, Ph.D., Professor of Botany	508 5th Ave. S. E.
LOUIS J. COOKE, M.D., Director of Physical Education for Men	909 6th St. S. E.
HARDIN CRAIG, Ph.D., Professor of English	2725 Humboldt Ave. S.
HENRY A. ERIKSON, Ph.D., Professor of Physics	424 Harvard St. S. E.
GEORGE B. FRANKFORTER, Ph.D., Professor of Chemistry	525 E. River Road
JOHN HENRY GRAY, Ph.D., Professor of Economics	412 Walnut St. S. E.
MELVIN E. HAGGERTY, Ph.D., Professor of Educational Psychology	70 Seymour Ave. S. E.
JOHN CORRIN HUTCHINSON, B.A., Professor of Greek	3806 Blaisdell Ave. S.
DAVID L. KIEHLE, LL.D., Professor of Education Emeritus	226 58th St. E., Portland, Ore.
WILLIAM H. KIRCHNER, B.S., Professor of Drawing and Descriptive Geometry	722 10th Ave. S. E.
FREDERICK KLAEBER, Ph.D., Professor of Comparative Philology	619 9th Ave. S. E.
AUGUST C. KREY, Ph.D., Assistant Professor of History	939 14th Ave. S. E.
WINFORD P. LARSON, M.D., Associate Professor of Bacteriology	614 9th Ave. S. E.
WILFRED S. MILLER, M.A., Assistant Professor of Education and Principal of the University High School	
J. ANNA NORRIS, M.D., Director of Health and Physical Education for Women	
EVERETT WARD OLNSTED, Ph.D., Professor of Romance Languages	2727 Lake of the Isles Blvd.
JOSEPH B. PIKE, M.A., Professor of Latin	1025 6th St. S. E.

## COLLEGE OF EDUCATION

CHESLEY JUSTIN POSEY, M.S., Assistant Professor of Geography	1627 Melbourne Ave. S. E.
ALBERT W. RANKIN, B.A., Professor of Education	916 5th St. S. E.
WILLIAM A. SCHAPER, Ph.D., Professor of Political Science	625 Fulton St. S. E.
CARL SCHLENKER, B.A., Professor of German	514 11th Ave. S. E.
CARLYLE SCOTT, Professor of Music	3322 Lyndale Ave. S.
CHARLES P. SIGERFOOS, Ph.D., Professor of Zoology	
ANDREW A. STOMBERG, M.S., Professor of Scandinavian Languages	531 Walnut St. S. E.
ASHLEY V. STORM, M.A., Professor of Agricultural Education	1827 4th St. S. E.
FLETCHER H. SWIFT, Ph.D., Professor of Education	1910 4th St. S. E.
ARTHUR J. TODD, Ph.D., Professor of Sociology	713 8th Ave. S. E.
JOSEPH M. THOMAS, Ph.D., Professor of Rhetoric	818 Univ. Ave. S. E.
NORMAN WILDE, Ph.D., Professor of Philosophy	901 6th St. S. E.

## INSTRUCTORS

CHARLES L. HARLAN, M.A., Instructor in Education	710 11th Ave. S. E.
REWEY BELLE INGLIS, B.A., Instructor in Methods of Teaching High School English	2436 Bryant Ave. S.
G. A. McGARVEY, B.A., Instructor in Manual Training	622 5th St. S. E.
JAMES W. NORMAN, M.A., Instructor in Education	
WILLIAM D. REEVE, B.S., Instructor in the Methods of Teaching High School Mathematics	820 University Ave. S. E.

*University High School*

SOPHIA HUBMAN, M.A., Instructor in German	
REWEY BELLE INGLIS, B.A., Instructor in English	
RAY L. LELAND, B.S., Instructor in History	
FRANCES M. MOREHOUSE, A.M., Instructor in History	
G. A. McGARVEY, B.A., Instructor in Manual Training	
SAMUEL R. POWERS, B.A., Instructor in Science	
WILLIAM D. REEVE, B.S., Instructor in Mathematics	
ELSIE M. SMITHIES, B.A., Instructor in Latin	

## LECTURERS

MABEL CARNEY, Lecturer in Methods of High School Teacher Training Departments	
THADDEUS P. GIDDINGS, Lecturer in Public School Music	
GEORGIANA LOMMEN, Lecturer in Methods of High School Teacher Training Departments	
HARRY N. FITCH, B.A., Assistant	
JOSEPH J. WEBER, B.A., Graduate Scholar	

## GENERAL INFORMATION

The College of Education was authorized by special enactment of the Legislature of Minnesota in 1905 and was established by the Regents of the University in the following year. It has the following purposes:

1. To offer opportunity for the study of education as an important enterprise of society and as of peculiar interest to all persons whether they are preparing for teaching or not.
2. To offer inexperienced university students who intend to become teachers the technical training for their vocation.
3. To offer experienced teachers or those actively engaged in service opportunity for advanced professional study under direction.
4. To offer to university students, and to all teachers of suitable attainment, appropriate training designed to prepare them for successful careers as public school administrators, normal school teachers, or college teachers of education.
5. To offer opportunity for original investigation, research, and experiments in education and for the preparation of constructive contributions to educational theory and practice.

In fulfilling these purposes the College of Education offers the professional courses for the training of superintendents, principals, supervisors of special subjects, rural school supervisors, teachers of the high school subjects, manual training teachers, school librarians, teachers of high-school teacher-training departments, teachers of agriculture, teachers of home economics, teachers of physical education, supervisors of playground and recreation activities, school nurses, school doctors, and school dentists. The preparation of teachers of home economics and agriculture is given at the College of Agriculture. In every instance the educational courses designed to equip one for work in any one of these special fields is offered by the College of Education, while the subject matter courses are offered by departments in other colleges.

### *University High School*

The University High School and the College of Education are located in the new Education Building. The University High School is maintained, first, to conserve the interests of its student body, and, second, to provide superior opportunities for observation and directed teaching for prospective teachers. To fulfill the latter obligation teachers of recognized skill and proficiency have been engaged as critic teachers. In co-operation with the high school principal, these critics supervise all the practice of the student teachers. For further information consult the Bulletin of the University High School.

### ADMISSION

Students looking forward to teaching should consult with the Dean of the College of Education or the Chairman of the Program Committee early in their course.

Not infrequently seniors discover that a slight difference in arrangement of studies in their course made during their freshman or sophomore years would have made them much more eligible for teaching positions.

Students are held responsible for arranging their courses so as to meet all requirements. To do this intelligently they should secure from the Registrar's office or the office of the Dean of the College of Education the following bulletins and pamphlets:

Bulletin of General Information

Bulletin and program of the College of Education

Bulletin and program of any other college in which subject matter courses are to be pursued

Bulletin of the University High School

Information for New Students

The Minnesota Code

The Minnesota Blue Book

High School Board Rules, State Department of Education, Bulletin No. 45, May, 1915

State Department of Education Bulletin No. 50, March, 1914

See also page 18 of this bulletin.

#### *Regular Students*

To be admitted to regular standing in the College of Education, students must be able to satisfy either of the following requirements, (a) or (b).

(a) Completion of at least the freshman and sophomore years of the College of Science, Literature, and the Arts, or of some other approved College at the University of Minnesota or elsewhere, during which time an introductory course in general psychology shall have been pursued. No formal application is necessary for transfer from the College of Science, Literature, and the Arts to the College of Education, nor is any loss of credits involved. Students able to meet the requirements set forth above simply make known their desire at the Registrar's office at the time of registration and they will thereupon be furnished with College of Education registration cards.

(b) Graduation from an approved normal school of Minnesota or of some other state. See below under Advanced Standing.

#### *Unclassed Students*

Normal school graduates receiving forty-two credits, teachers preparing for examination for the First Grade Professional Certificate, but who are unable to meet the regular requirements for admission, teachers in service unable to carry full work, and certain other classes of students are admitted to the College of Education as unclassed students. Each case must, however, be dealt with individually as the result of formal application to the Dean.

Unclassed students in the College of Education will find it possible to pursue all subjects required for a First Grade Professional Certificate.

## ADVANCED STANDING

*By Examination*

The tendency of the College of Education is distinctly toward discouraging any effort to secure advanced standing in professional subjects by examination. With the establishment of correspondence courses in the General Extension Division, there are no longer the reasons which formerly existed for granting such examinations. (See also statement, Practice Teaching, page 21.)

*Graduates of Minnesota Normal Schools*

The College of Education grants to graduates of the Advanced Graduate Course of Minnesota State Normal Schools sixty credits of advanced standing (approximately two years' credit); to graduates of the Advanced Latin or Advanced English courses, forty-two credits.

Normal School graduates desiring admission to the College of Education must present a recommendation from the President of the normal school from which they were graduated, together with a record of the courses pursued and grades received.

Students admitted to the College of Education from normal schools will not be permitted to elect the following courses for credit: Education 1; Philosophy 1-2, or 5; Rhetoric 1-2; History 1-2.

For a statement of records to be submitted, see Bulletin of General Information, pages 25-26.

## CLASS ROUTINE AND SCHOLASTIC REQUIREMENTS

The following regulations refer chiefly to undergraduates; graduate students should consult the bulletin of the Graduate School.

Classes are held mornings and afternoons of every week day except Saturday afternoon. (For teachers' afternoon and Saturday classes see page 17.)

No student may elect work during any semester in more than five departments. Students must elect at least fourteen hours a week. Students may ordinarily elect not more than seventeen credit hours. A student who has, during the preceding semester or two semesters, earned an average of one and one-half honor points for each credit hour taken and who has had no condition or failure the preceding semester, may elect eighteen hours, upon the approval by the Administrative Board of a petition for permission to do the same. For explanation of Credit Hours and Honor Points, see page 14.

Students whose absences exceed four weeks in the aggregate during a semester are not permitted to take the semester examinations without permission of the Administrative Board. Any student reported below grade in sixty per cent of his work, or in three subjects, at the middle or close of the first semester or middle of the second semester is dropped from the rolls and not allowed to re-enter the University until the opening of the following year.

Examinations are held at the close of each semester. A student's grade is based upon his class work and examination. Four passing grades are given, namely A, B, C, D. Work not done satisfactorily is marked I (incomplete), E (condition), or F (failure). An incomplete must be removed within one month after the opening of the following semester; otherwise it becomes a condition.

A failure must be removed by pursuing the work again in class the next time the course is offered.

#### CERTIFICATES

##### *Required in Minnesota*

Every teacher in the Minnesota Public Schools must have a valid certificate before he can be lawfully employed. Two classes of certificates are of interest to University students:

1. A First Grade Professional Certificate renders its holder eligible for the following positions: (1) Superintendent of Schools (if candidate has had previously two years' experience in supervising grades); (2) Principal of a Graded or High School; (3) Instructor in any high-school subject, except those subjects which demand special certificates.

2. A Special Certificate authorizes the holder to teach the special subjects indicated on the certificate. The University prepares students for special certificates in: (1) Music; (2) Drawing; (3) Home Economics; (4) Manual Training; (5) Agriculture; (6) Commercial Subjects; (7) Public School Music; (8) Physical Education; (9) School Doctors; (10) School Nurses; (11) School Dentists.

3. High School Training and Teacher-Librarians. In addition to the courses preparing for special certificates, the College of Education offers courses to prepare teachers for high-school rural training departments and high-school teacher-librarians. The State Department issues no special certificates for these two classes of teachers, but gives an official endorsement to students who complete these courses in the College of Education. The College of Education grants persons completing these courses a special diploma.

##### *The University Teachers' Certificate*

1. Two year certificate. The University Teachers' Certificate is valid for two years as a First Grade Professional Certificate. Holders are eligible for all positions open to holders of the First Grade Professional Certificate named above. The courses leading to this certificate are described on page 20.

2. Life Certificates. After two years of successful teaching experience, the University Teachers' Certificate may become a Life Certificate, upon endorsement by the State Department of Education and the President of the University. This two-years' experience must be gained within Minnesota. Graduates who teach in another state may, upon returning to Minnesota, apply to the State Department of Education for an extension of their University Teachers' Certificate for two years at the

completion of which application may be made for a permanent life certificate. The fee for this extension is \$1. Holders of the University Teachers' Certificate who wish to have their certificate made a permanent life certificate should apply directly to the State Department of Education, St. Paul, for a permanent endorsement of the certificate. The fee for this endorsement is \$5.

*Regulations Governing the Issuance of Certificates*

1. All inexperienced students desiring the University Teachers' Certificate (described on page 12) are required to comply with the University requirements for this certificate. This certificate shall specify the major and minor subjects the student is qualified to teach.

2. Mature and experienced undergraduates may petition the Administrative Board to be excused from certain of the prescribed courses for the regular University Teachers' Certificate, but their petition must be approved by the Department of Education and the petition must be accompanied by a statement showing that the student has been a successful teacher in certain high school subjects. These students will be required to complete satisfactorily prior to graduation at least fifteen hours of work in education. The education courses which they shall be privileged to carry will be determined entirely upon the recommendation of the Dean of the College of Education or the Department of Education.

3. Graduates of normal schools or of other institutions registered in the College of Education who do not desire to become high school teachers, but who desire a more liberal training for elementary school work, may be relieved from complying with the regular requirements for a University Teachers' Certificate, but they will not be relieved from carrying at least fifteen hours of work in education. Such persons at graduation will be granted a special teachers' certificate describing their courses and indicating the types of positions for which they are qualified.

4. Students desiring to qualify as public school administrators will be granted a certificate upon completion of a course leading to such a certificate, but no student shall be eligible to such a certificate unless he has completed at least twenty-four hours of work in education, at least twelve of which must have been taken at the University of Minnesota.

5. Teachers and supervisors of public school music, of physical education, of manual training, of home economics, of agriculture, and of such special subjects as may later be included in the program of the College of Education will be granted a special teacher's or supervisor's certificate upon completing a prescribed course leading to such a certificate.

6. Students desiring to qualify as heads of teachers training departments in high schools will be granted a certificate upon the completion of a course leading to such a certificate.

7. Students desiring to qualify as teachers of defective or super-normal children will be granted a certificate upon completion of a course leading to such a certificate.

8. School doctors, school dentists, and school nurses will be granted

a special certificate upon completion of courses designed to prepare for these special kinds of educational work.

9. Students regularly enrolled for graduate work with education as a major shall, upon the completion of the requirements for an advanced degree, be recommended for a University Teachers' Certificate.

10. Students regularly enrolled for graduate work with education as a minor, who desire a University Teachers' Certificate shall be required to complete the course prescribed for such a certificate, unless they have already met the requirements or their equivalent for the certificate in their undergraduate careers.

#### THE DEGREE OF BACHELOR OF ARTS (IN EDUCATION)

The degree of Bachelor of Arts (in Education) may be conferred by the College of Education upon any student who fulfills all the requirements stated below.

##### *Summary of Requirements*

1. Amount and grade of work. During his entire course the student must earn: (a) one hundred and twenty credit hours in addition to the required exercises in drill, gymnasium, and physical education; (b) one hundred and twenty honor points; (c) one and one-half honor points per credit hour in his major subject.

2. Courses required and allowed. (a) The student must have completed (normally during sophomore year) a general introductory course in psychology (e.g. Philosophy 1-2, or 5, or an equivalent of the same); (b) he must have satisfied all the requirements for a teachers' certificate (see page 20) except as hereinafter provided:

(1) Students *already holding a first grade professional certificate will be excused from complying with the university requirements for the certificate*, but they will be required to carry an equivalent number of courses in education.

3. Distribution of work—Majors and Minors. A student must take a sufficient number of courses so distributed among at least three distinct departments concerned with the work of the secondary school as to secure one major and two minors. Either Education or Psychology may be counted as a major or a minor in this group.

4. Residence. At least thirty credits must be earned by residence in this college. If the term of residence is only one year, that year must be the senior year; and in any case, at least half of the work of the senior year must be done in residence. Attendance at summer sessions counts as residence.

##### *Explanation of Requirements*

The amount of work pursued by a student is estimated in credit hours; the quality or grade of his work, in honor points.

A *Credit Hour* is one hour per week of recitation or lecture work extending throughout one semester, or three hours per week of laboratory work through one semester. It is assumed that each credit hour

will demand on the average three hours a week of the student's time for recitation or lecture, one hour in class and two hours of preparation; for laboratory courses, three hours in the laboratory.

*Honor Points* are computed as follows: each credit hour with the grade of A entitles the recipient to three honor points; each credit hour with the grade of B entitles the recipient to two honor points; each credit hour with the grade of C to one honor point; each credit hour with the grade of D to no honor points. Illustration: A student completing a one-semester three-credit course and receiving the grade A would be entitled to nine honor points; if receiving the grade B to six honor points; if receiving the grade C to three honor points; if receiving the grade D to no honor points.

*Major and Minors.* Twelve credits is the minimum requirement for a minor and eighteen credits for a major, in the College of Education. Usually a minor will demand from fifteen to eighteen credits with a corresponding increase for the major, depending upon the combination which the student has selected with a view to future teaching. Only in special cases will the minimum mentioned above be accepted. The definite determination of the credits required is left in each case to the department concerned, for a statement of which consult the departmental statements appearing further on in this bulletin.

#### GRADUATION WITH DISTINCTION

The degree of Bachelor of Arts in Education with Distinction is granted to graduates of this College who fulfill the following conditions:

- A. Special excellence in major subject.
- B. Application for the degree with distinction should be made at the time of entering the College, but may, however, be postponed until the opening of the senior year.
- C. At the time of application the student shall, after conference with the Dean of the College of Education, or some other member of the Faculty appointed for that purpose, select a subject for his thesis, which must be formally approved and recorded.
- D. The presentation of a satisfactory thesis upon some subject within the major field of study not later than May 1, senior year.
- E. At the time of application the student must have an average of one and one-half honor points per credit hour in all previous work.
- F. At the time of graduation the student must have met all conditions applying to the Bachelor's Degree in Education; must show a record of one and one-half honor points per credit hour in *four-fifths of all work pursued throughout his entire course*; and
- G. Must be recommended to the Faculty for the degree with distinction, which recommendation must be approved by the vote of the Faculty of the College.

#### GRADUATE WORK IN EDUCATION

*Graduate Study.* Graduate courses in Education leading to the degree of Master of Arts or Doctor of Philosophy may be pursued in the

Graduate School. Students who desire to undertake graduate work in Education must have had at least a year's work in Psychology and in addition to this, a total of not less than twelve credits in Education. Graduates, holding a Bachelor's degree, who have less than twelve credits in undergraduate courses in Education, will be obliged to increase the number of credits required for a major or a minor in Education by the difference between twelve and the number of undergraduate credits in Education which they present. Such students will not, however, be debarred from counting all the time spent at the University toward satisfying the residence requirement of graduate work, provided the work which they pursue is approved by the Dean of the Graduate School.

During summer session graduate work may be pursued. The Master's degree may ordinarily be completed in four summer sessions. For full statement of regulations, consult Graduate School Bulletin.

#### TEACHING ASSISTANTS IN MINNEAPOLIS PUBLIC SCHOOLS

The College of Education in coöperation with the Minneapolis schools has adopted a plan which provides for employing in the Minneapolis high schools a certain number of University graduates to be known as "teaching assistants." The adoption of this plan is in essence the establishment in the Minneapolis public schools of a certain number of teaching fellowships for graduate students. These teaching assistants will receive a compensation for their work in the schools proportionate to the amount of time devoted to teaching; \$300 for the first year; \$400 for the second year.

For each assistant a definite course, combining graduate professional study and teaching experience will be outlined. Altho the plan provides an abundance of teaching experience, the greater emphasis will be thrown upon advanced professional study.

*Work in Minneapolis Schools.* Teaching assistants shall be on duty at the schools from 8:30 until 12:15. Their work will be divided between teaching and assisting. During their first year they shall instruct not more than two classes per day, that is, one-third of a regular teacher's teaching periods. If they continue a second year, the portion of their time devoted to class instruction may be increased to three periods a day. Their work as teaching assistants shall be limited to the hours during which they are on duty in the schools and no additional work other than preparation for teaching their regular courses shall be required of them outside of the above set schedule of hours.

*Applications for positions* as teaching assistants should be made directly to the principal of the University High School. The number of such positions cannot be absolutely determined in advance of the opening of the Schools.

#### COÖOPERATION WITH STATE DEPARTMENT OF EDUCATION

Arrangements have been made whereby a few students of superior ability who are interested in problems relating to the administration of

state systems of education may carry on a limited part of their work in the office of the State Superintendent of Education. This office now has at its command a very valuable library, a great mass of original material, and the services of a number of competent men and women who are devoting themselves to the administration and supervision of:

- (a) The description of state's moneys for the support of public education.
- (b) The inspection of rural, elementary, and secondary schools.
- (c) Construction of buildings.
- (d) The training of teachers.

It is understood that in case any students are recommended for this work, the recommendation must be made by the Department of Education of the University of Minnesota, and that such students, in case they are to receive credit for graduate work in the University of Minnesota, will be expected to work under the supervision of the State Department of Education and the Department of Education in the University of Minnesota and that in each instance, the student will be required to do a specific and intensive piece of work.

#### SPECIAL OPPORTUNITIES FOR TEACHERS IN SERVICE

Afternoon and Saturday morning classes, correspondence lessons, extension classes, and the summer session are the chief channels through which the College of Education seeks to discharge its obligation to teachers in service.

##### *Afternoon and Saturday Classes*

A special announcement of late afternoon and Saturday morning classes arranged especially for teachers, together with a statement of the requirements for admission and method of registration will be issued by the College of Education early in September.

##### *Teacher Training through Extension Courses*

The General Extension Division offers excellent opportunities for teachers and others to pursue courses carrying credit for the Bachelor of Arts degree or for the professional state teachers' certificate, either by correspondence lessons or by joining an extension class. For further information address the General Extension Division, University of Minnesota.

##### *Summer Session*

The summer session conducted by the University offers unusual opportunities for professional training to undergraduates, graduates, superintendents and principals, teachers in service, and candidates for first grade and second grade State Professional Certificates. The summer session of 1917 will begin Monday, June 18.

## EMPLOYMENT BUREAUS

*Appointment Bureau.* The University of Minnesota maintains an Appointment Bureau which endeavors to place graduates of the University of Minnesota in positions best suited to their training and experience. Students looking forward to teaching should register during the first semester of their senior year. No fee, however, will be charged to those who register before February 15. Complete instructions and registration blanks should be secured at the office of the Appointments Bureau. During the year 1916-17, the general office of this Bureau will be located in the College of Education Building, Room 103. Special offices, however, will be maintained at the College of Agriculture under the direction of Professor A. V. Storm for those desiring to teach agriculture or domestic science.

*State Teachers' Employment Bureau.* The State Teachers' Employment Bureau, located in the State Capitol, St. Paul, under the direction of Mr. E. T. Critchett, offers its services to all teachers and prospective teachers. The fee for registration is \$3.

Neither the University of Minnesota nor the State Teachers' Employment Bureau exacts any commission.

## COURSES OF STUDY

### DEPARTMENT

Every course listed in this Bulletin counts in the College of Education.

#### GUIDANCE IN THE SELECTION OF COURSES

##### *Superintendents and Graded School Principals*

It is probable that in the near future the State High School Board will require that prospective superintendents and principals of graded schools who have not had at least two years' experience in a supervisory position in a school of at least two departments shall, before entering upon their duties, have had courses in School Administration and School Supervision in some recognized normal school or college, totaling at least five semester credits. The following courses will be credited toward this requirement: 109, 121, 123, 124, 134, and 141. Course 121 is a general introduction to all other courses in School Administration and is especially recommended to those beginning a study of this field.

##### *Graduate Students*

All courses bearing number of 100 and above are open to graduate students. Before attempting to make out their programs, graduate students in Education should consult the Dean of the College of Education and the Dean of the Graduate School. Attention is called to the fact that Course 125 is ordinarily required of all candidates for advanced degrees. Courses bearing numbers 200 and above are open to graduate students only.

All graduate students majoring in Education are required to meet with the department staff every alternate Monday evening from 7:15 to 9:00 for conference regarding subjects of original investigation. This work carries no credit. See also pages 15-16 of this bulletin.

##### *Candidates for State Professional Certificate*

Unclassed students, candidates for the State Professional Certificate, may pursue courses in residence or by correspondence or in extension classes. For guidance in the selection of courses relating to this certificate, consult statement, State Professional Teachers' Certificate, page 12.

##### *Undergraduates*

Students should consult carefully the departmental descriptions of courses required for admission to teachers' course. The teachers' course in each subject must be taken in advance of or contemporaneously with practice teaching. For some subjects more than a minor is required for admission to teachers' courses in the case of students who wish to offer the subject only as a minor.

See the following topics in this bulletin: (1) University Teachers' Certificate, page 12; (2) major and minors, page 14; (3) special training courses, page 21-24; (4) admission, page 9; (5) prerequisites for teachers' courses, page 21.

#### THE UNIVERSITY TEACHERS' CERTIFICATE

A two-year, junior-senior course, leading to the degree of Bachelor of Arts (in education) entitles the recipient in every case to a University Teachers' Certificate.

All students without teaching experience, desiring a University Teachers' Certificate will be required to comply with the requirements listed below. Such students will also be required to complete a two years' course leading to the degree of Bachelor of Arts (in Education).

Candidates for this degree may major in any department offering work in the College of Education.

Recipients of the degree of Bachelor of Arts (in Education) and of the University Teachers' Certificate may, by a proper selection of studies during their regular course, become eligible for recommendation or endorsement for one of the special certificates described on pages 13-14.

#### *Prescribed Course of Study for University Teachers' Certificate*

The College of Education has adopted the prescribed course of study outlined below, for the University Teachers' Certificate, and for the degree of Bachelor of Arts (in Education).

No.	Title	Credits	To be Taken	
			Semester	Year
1.	Brief Hist. of Educ. ....	3	1 or 2	Jr.
	or			
101-102.	History of Education.....	6	1 and 2	Jr.
3.	Social Aspects of Educ.....	3	1 or 2	Jr.
11.	Technique of Teaching.....	3	1 or 2	Sr.
115.	Practice Teaching .....	3	1 or 2	Sr.
	(See statement below)			
	Teachers' Courses (i.e. courses in special methods covering at least two high school subjects and totaling at least three credits*.	3	1 or 2 or 1	Jr. Sr.

A general introductory course in Psychology is a prerequisite for all courses in Education, except those new offered in the Department of Agricultural Education and in the Department of Home Economics Education. Credits gained by it, however, are not counted as professional credits toward the teachers' certificate.

\* In some cases the amount of work necessary to meet this requirement will total six credits. In other cases a single teachers' course totaling only three credits is arranged in such a way as to cover two subjects, thereby satisfying this requirement. An example of this is the teachers' course in English and Rhetoric.

*Graduates of normal schools* who, upon entering the College of Education, receive credit for any of the courses specified above will be allowed to elect in the place of the same other strictly professional subjects.

## PRACTICE TEACHING—PREREQUISITES

Opportunity for Practice Teaching is provided in part by the University High School and in part by the Minneapolis City Schools.

Education 1 or 101-102, 3, 11, and the teachers' course in the department in which the student wishes to do practice teaching, together with all subjects required by the department concerned as prerequisite to the teachers' course (see departmental statement) are prerequisite to the course in Practice Teaching. In cases where the teachers' course extends throughout two semesters, students will in exceptional cases be permitted to do their practice teaching during the second semester of their teachers' course.

## ADMISSION TO PRACTICE TEACHING

*Application and Credentials*

No student will be permitted to do practice teaching who has not been definitely recommended by the department in which the subject lies as being well prepared from the standpoint of subject matter.

All assignments to Practice Teaching are made by the Principal of the University High School. Before registering for this work students must consult with him and submit: (1) the departmental recommendation referred to above and (2) a statement from the Registrar showing the courses they are offering as prerequisites including, (a) the courses in Education, (b) the courses in the department concerned. This statement must show when these courses were taken and the grade received and it must be followed by a formal statement that the student has satisfied all the prerequisites for practice teaching. Special blanks for this purpose may be secured at the office of the High School Principal.

Students at the College of Agriculture desiring to qualify as teachers will be required to comply with the usual requirements for practice teaching. Arrangements for this work will be made by Professor Storm and Miss Berry.

*Credits allowed in Agriculture and Home Economics.* A maximum of eighteen credits is elective from courses in Agriculture and Home Economics, but it should be noted that prospective teachers of these subjects must secure from the State Department of Education in advance of their contract to teach, a special certificate in the subject concerned.

## SPECIAL TRAINING COURSES

## DEPARTMENT OF AGRICULTURAL EDUCATION

The special professional courses offered by the College of Education for the preparation of teachers, superintendents, and supervisors of agriculture are given in the Department of Agricultural Education on the campus of the College of Agriculture. (See department statement, page 31.)

## COMMERCIAL TRAINING

The demand for University graduates as commercial teachers has been greater than the University has been able to meet. A new requirement of the State Department that teachers of commercial subjects, must be college graduates will intensify this demand. The University has as yet made no arrangements to offer the technical subjects required for this work, such as stenography, typewriting, penmanship, bookkeeping, etc. Nevertheless, by a proper selection of courses in English, rhetoric, foreign language, history, economics, psychology, and education, students who have secured a knowledge of the technical subjects elsewhere can get a broad and sound foundation for this work during their university course.

## DEPARTMENT OF HOME ECONOMICS EDUCATION

The special professional courses offered by the College of Education in Home Economics for the training of teachers of Home Economics are given by the Department of Home Economics Education on the campus of the College of Agriculture. (See department statement, page 32.)

## MANUAL TRAINING

During the year 1914-15 the course for preparing manual training teachers was reorganized and placed upon a more substantial basis. Still further progress has been made for the year 1916-17.

Students looking forward to teaching manual training may, under the present arrangements, offer manual training as a minor in the College of Education. Under manual training in the departmental statement will be found a prescribed course of study to be required of all students whom the College of Education will recommend for certificates as teachers of manual training. (See department statement, pages 33-34.)

## TEACHER-LIBRARIANS

Owing to the existence of a large number of small high schools, and to a recent ruling of the State High School Board made in 1915, which requires every state-aided high school to provide trained service for the high school library, there will undoubtedly be an urgent and increasing demand during the next few years for teachers who have had some definite library training and who will divide their time between teaching and the care of the school library. The College of Education will offer during the year 1916-17, under the direction of Miss Martha Wilson, State Supervisor of School Libraries, a brief course for training high school teacher-librarians. Those who complete the three courses named below will receive three credits in the College of Education and a teacher-librarian certificate from the Department of Education.

These courses extend over two years and will be confined to Saturday mornings. Course 1 will be offered the first semester of 1916-17; course 4, the second semester of 1916-17; course 2, the second semester of 1917-18.

Students who begin library training the first semester of their junior year will be able by the end of their senior year to have satisfied the requirements for work as high school teacher-librarians. Students beginning the first semester of their senior year may complete their training by pursuing the course in the summer school.

For description of courses, see departmental statement, page 35.

#### HIGH SCHOOL TEACHER-TRAINING DEPARTMENTS

The College of Education offers a definite course of study for the preparation of teachers for high school teacher training departments. This course is open only to teachers who have had two years of rural teaching experience and who in addition to this are graduates from the advanced course of a Minnesota State Normal School or who possess equivalent professional preparation.

NOTE: To this second requirement exceptions may be made in the case of teachers already engaged in high school training departments and in certain other individual cases where circumstances justify the same.

In the conduct of the course the College of Education will be assisted by Miss Mabel Carney, State Supervisor of Teachers' Training Departments, who will offer a course of monthly lectures and conferences extending throughout the year. The courses in the methods of teaching the elementary studies will be in the hands of teachers actually engaged in High School Training Departments.

Ordinarily two years will be required to complete this course. However, teachers already engaged in high-school training departments and holding First Grade Professional Certificates and who are unable to absent themselves from their duties for more than a year will be permitted to deviate from the prescribed course of study and to elect such subjects as will be of most immediate use to them in their work.

Students who complete the course offered by the College of Education for teachers of training departments will be eligible for the endorsement of the State Department of Education as heads of training departments in high schools. The course as outlined (see pages 36-37) provides Education as a major study, with Economics and English as minors. The selection of these two subjects as minors has been based upon the nearness of their relation to the work of the rural school teacher. The Education courses are all required, but other minors may be selected upon approval. The attention of teachers desiring to become teachers in high school training departments is called to the following rules recently passed by the High School Board which provides that after 1918 all candidates for this work shall be both normal school and college graduates.

#### TEACHERS OF DEFECTIVES

During the past year the College of Education, in coöperation with the department of Psychology, has been able to prepare a limited number of teachers of mental defectives. Plans are now in progress for a further development of this phase of teacher preparation and it is hoped that it may prove possible in the near future to organize effective train-

ing courses for teachers of the blind, and the deaf and dumb, as well as for teachers of mental defectives. Students interested in preparing for this type of work should consult with the Dean of the College.

#### KINDERGARTEN AND ELEMENTARY TEACHERS

The College of Education offers opportunity for advanced study to teachers who have had adequate normal school training and who wish to take further preparation for work as principals, supervisors, or teachers of elementary schools. A special certificate will be granted to normal school graduates who spend two years in the College of Education taking advanced work for the purpose of becoming better teachers of elementary schools. The following agreements between the presidents of the State Normal Schools of Minnesota and the Executive Faculty of the College of Education, reached at an informal conference, April 3, 1915, make it possible for students in the College of Education, who discover during their course that their taste and ability lie in the elementary field, to transfer from the College of Education to one of the normal schools at the opening of their senior year and thus prepare themselves as elementary teachers or as kindergarteners without loss of time.

##### *Agreements between Normal Schools and College of Education*

1. That less than one year of residence at a State Normal School for the purpose of preparing for kindergarten or elementary school work would not be adequate.
2. That the normal schools would be willing to confer their regular diploma upon university students coming to them from the College of Education, who had had three years of college work, upon the satisfactory completion of one year in the normal schools.
3. That these provisions be limited to students previously registered in the College of Education.
4. That they should not apply to students who had entered the College of Education upon the basis of normal school credits.

#### PUBLIC SCHOOL MUSIC

See courses 27-28 under statement of Department of Music.

#### SCHOOL NURSES, SCHOOL DOCTORS, SCHOOL DENTISTS

The demand for school nurses, school doctors and school dentists is increasing. Special courses will be arranged for persons desiring to qualify for any of these types of work.

## DEPARTMENTAL STATEMENTS

### EDUCATION

Professors LOTUS D. COFFMAN, MELVIN E. HAGGERTY, ALBERT W. RANKIN, FLETCHER H. SWIFT; Assistant Professor WILFRED S. MILLER; Instructors CHARLES L. HARLAN, REWEY BELLE INGLIS, G. A. McGARVEY, JAMES W. NORMAN, WILLIAM D. REEVE; Assistant HARRY N. FITCH; Scholar JOSEPH J. WEBER; Special Lecturers MABEL CARNEY, THADDEUS P. GIDDING, CHARLES H. KEENE, GEORGIANA LOMMEN, JULIUS P. SEDGWICK, MARTHA WILSON.

#### REQUIREMENTS OF THE DEPARTMENT

*For a Minor*, eighteen credits, including Philosophy 1-2, or equivalent.

*For a Major*, twenty-four credits, including Philosophy 1-2, or equivalent. Six credits in Psychology are prerequisite for all courses in Education.

#### COURSES

No.	Credits	Title	Offered to	Prereq. courses
1a	3	Brief Course in Hist. of Educ.	Jr., sr.	Phil. 1-2
	8	TThS	205Ed	Swift, Norman
	9	TThS	205Ed	Swift, Norman
	8	MWF	205Ed	Swift, Norman
1b	3	Brief Course in Hist. of Educ.	Jr., sr.	Phil. 1-2
	9	TThS	205Ed	Swift, Norman
	10:45	TThS	Col. of Agr.	Norman
3a	3	Social Aspects of Educ. ....	Jr., sr.	Phil. 1-2
	4	MWF	204Ed	.....
3b	3	Social Aspects of Educ. ....	Jr., sr.	Phil. 1-2
	8	MWF	204Ed	Rankin
3bt	3	Social Aspects of Educ. ....	Teachers	Phil. 1-2
	8-9:50	S	206Ed	Rankin
11a	3	Technique of Teaching. ....	Jr., sr.	Phil. 1-2
	8	MWF	206Ed	Haggerty
	9	MWF	206Ed	Coffman
11b	3	Technique of Teaching. ....	Jr., sr.	Phil. 1-2
	9	MWF	205Ed	Norman
101	3	Hist. Foundations of Mod. Ed.	Jr., sr., grad.	Phil. 1-2 and 6 cr. in Dept. of History
	4:5:30	TTh	205Ed	Swift
102	3	Hist. of Educ. Since Reform.	Jr., sr., grad.	Phil. 1-2 and 6 cr. in Dept. of History
	4:5:30	TTh	205Ed	Swift
103	2	Educational Classics ....	Jr., sr., grad.	1 or 101-102
	3	TTh	205Ed	Swift, Norman
104	2	Educational Classics ....	Jr., sr., grad.	1 or 101-102
	3	TTh	205Ed	Swift, Norman
105	3	Educational Psychology ....	Sr., grad.	Phil. 1-2
	11	MWF	206Ed	Haggerty
106	3	Educational Psychology ....	Sr., grad.	Phil. 1-2
	11	MWF	206Ed	Haggerty

107-108	0	Problems in High School Training Departments .....	Jr., sr., grad.	1 or 101-102
		5 M	205Ed	Carney
109	2	Educational Diagnosis .....	Sr., grad.	1 or 101-102 and 3
		10-11:40 S	206Ed	Haggerty
115a	3	Practice Teaching .....	Sr., grad.	See statement
		Ar Ar	Ar	Miller
115b	3	Practice Teaching .....	Sr., grad.	See statement
		Ar Ar	Ar	Miller
119	3	School Curricula .....	Sr., grad.	1 or 101-102 and 3
		4 MWF	206Ed	Rankin
121a	3	School Organ. & Admin.....	Sr., grad.	1 or 101-102 and 3
		3 MWF	206Ed	Rankin
121b	3	School Organ. & Admin.....	Sr., grad.	1 or 101-102 and 3
		2 MWF	206Ed	Rankin
123	3	Theory of Supervision.....	Sr., grad.	1 or 101-102 and 3
		11 MWF	205Ed	Coffman
124	3	Educational Administration ..	Sr., grad.	121
		3 MWF	111Ed	Coffman
125	3	Methods in Educ. Research..	Sr., grad.	1 or 101-102 and 3
		3 MW	111Ed	Coffman
131	3	German Schools .....	Sr., grad.	1 or 101-102 and 3
		10 TThS	205Ed	Norman
132	3	French Schools .....	Sr., grad.	1 or 101-102 and 3
		10 TThS	205Ed	Norman
134	2	Mental Diagnosis .....	Sr., grad.	Phil. 1-2
		10-11:40 S	206Ed	Haggerty
136	3	Mental Tests .....	Jr., sr., grad.	Phil. 1-2
		2-4 MWF	202Ed	Haggerty
141	3	School Sanitati. & Pub. Health	Sr., grad.	1 or 101-102 and 3
		8 MWF	204Ed	Rankin
142	3	Industrial Education .....	Sr., grad.	1 or 101-102 and 3
		4 MWF	206Ed	Rankin
146	3	Hist. & Prin. of Religious Ed.	Jr., sr., grad.	Phil. 1-2
		4 MWF	205Ed	Swift
152	1	Elem. Methods in Reading...	Jr., sr., grad.	1 or 101-102
		5 Th	102Ed	Lommen
153	1	Elem. Methods in English....	Jr., sr., grad.	1 or 101-102
		5 Th	102Ed	Harlan
154	1	Elem. Methods in Indus. Arts.	Jr., sr., grad.	1 or 101-102
		Ar Ar	Col. of Agr.	Lommen
155	1	Elem. Methods in History....	Jr., sr., grad.	1 or 101-102
		5 T	102Ed	Lommen
156	1	Elem. Methods in Geography..	Jr., sr., grad.	1 or 101-102
		5 T	102Ed	Lommen
157	1	Elem. Methods in Arithmetic.	Jr., sr., grad.	1 or 101-102
		Ar Ar	Ar	Harlan
201-202	2	Seminar in Selected Problems in Educational History .....	Grad.	101-102 and 6 cr. in Dept. of History
		4-5:30 W	214Ed	Swift
203-204	2	Seminar in Educ. Psychology.	Grad.	105
		4-5:30 M	207Ed	Haggerty
205-206	2	Seminar in Educational Adm..	Grad.	124, 125, 126
		4-5:30 W	203Ed	Coffman

## HISTORY OF EDUCATION

1a or 1b. A BRIEF COURSE IN THE HISTORY OF EDUCATION. Current school problems and educational theories in the light of their history. Emphasis upon secondary education and those aspects of education of most immediate concern to high-school teachers. SWIFT, NORMAN.

101. FOUNDATIONS OF MODERN EDUCATION. An interpretative historical study of those elements in modern education derived from the Hebrews, Greeks, Romans, Middle Ages, and Renaissance. Emphasis will be laid upon secondary and higher education and the origin and results of the monopoly of the cultural conception of education and cultural studies. SWIFT.

102. HISTORY OF EDUCATION FROM THE REFORMATION TO THE PRESENT TIME. Modern educational institutions, theories, and problems in the light of their history. Special emphasis upon elementary education SWIFT.

103. EDUCATIONAL CLASSICS. An intensive study of selected writings of educational leaders, from Locke to the present time. SWIFT, NORMAN.

104. EDUCATIONAL CLASSICS. An intensive study of selected writings of educational leaders, from Locke to the present time. SWIFT.

201-202. SEMINAR IN SELECTED PROBLEMS IN EDUCATIONAL HISTORY. Research work for graduate students. SWIFT.

## PRINCIPLES OF EDUCATION

11a or 11b. TECHNIQUE OF TEACHING. Types of classroom exercises; preparation of teaching plans; hygiene of instruction; classroom management; the professional ethics of teaching; observation of high-school work. COFFMAN, HAGGERTY.

## EDUCATIONAL PSYCHOLOGY

105. EDUCATIONAL PSYCHOLOGY: MENTAL DEVELOPMENT. The origin and nature of the human organism, the origin, development, and control of instincts, and the relation of instincts to the formation of habits, individual differences, their nature, extent, and causes. An advanced course. HAGGERTY.

106. EDUCATIONAL PSYCHOLOGY: THE PSYCHOLOGY OF LEARNING. Methods of measuring the rate of learning; study of typical learning experiments and an examination of the conditions of the most economic learning, and the psychology of the school subjects. HAGGERTY.

109. EDUCATIONAL DIAGNOSIS. A study of educational scales and standard tests for the measurement of efficiency in school subjects. The course will deal with the nature of the tests, the methods of their use and an analysis of results obtained. HAGGERTY.

134. MENTAL DIAGNOSIS OF SCHOOL CHILDREN. A study of mental variation in children, its nature, degree, causes, and effects and a discuss-

sion of methods of treating superior and subnormal individuals in the schools. HAGGERTY, KEENE, SEDGWICK.

136. MENTAL TESTS. Study of individual differences by means of mental tests. Laboratory work in giving and taking tests, introductory to the use of group tests for the measurement of age-level, etc. HAGGERTY.

203-204. SEMINAR IN EDUCATIONAL PSYCHOLOGY. A research course for graduate students. Problems in educational psychology. HAGGERTY.

#### PSYCHOLOGICAL CLINIC

Beginning with the school year 1916-17, a psycho-educational clinic will be opened at Millard Hall in coöperation with the Medical School and the Department of Sociology. The physical and medical examinations will be given under the direction of Professor J. P. Sedgwick; the sociological study will be directed by Professor A. J. Todd and mental examinations will be in charge of Professor M. E. Haggerty. Opportunity will be given in this clinic for the study of mental deviation. It is proposed to make adequate diagnosis of super-normal and normal as well as sub-normal individuals, and students in Educational Psychology will be expected to familiarize themselves with the work of the clinic.

#### SCHOOL ADMINISTRATION

3a or 3b. SOCIAL ASPECTS OF EDUCATION. The school as a community factor; the present peculiar relation of the school to social problems; the function of the school in these relations. RANKIN, .....

3bt. SOCIAL ASPECTS OF EDUCATION. Same as above for teachers. RANKIN.

107-108. PROBLEMS OF THE HIGH SCHOOL TRAINING DEPARTMENT. Lectures and conferences upon the problems of high-school teacher-training departments. No credit. CARNEY.

119. SCHOOL CURRICULA. The curriculum as related to social, industrial, and economic conditions; a survey of the grammar grades and of the high school. Consideration of the possibilities of developing a curriculum better adapted to community needs. RANKIN.

121a. SCHOOL ORGANIZATION AND ADMINISTRATION. An introductory course in school administration for students of teaching experience and for those looking forward to work as principals and superintendents. RANKIN.

121b. Same as 121a. RANKIN.

123. THEORY OF SUPERVISION. The problems involved in the training of teachers in service; studies of qualities of merit in teachers; factors in service; factors in selecting teachers; the distribution of subject matter by grades; time allotment of studies. COFFMAN, .....

124. EDUCATIONAL ADMINISTRATION. The interpretation of present ten-

dencies in the administration of state and city school systems. COFFMAN, .....

125. METHODS IN EDUCATIONAL RESEARCH. A study of statistical and other methods as applied to educational investigation. This course is ordinarily required of all candidates for advanced degrees. COFFMAN.

205-206. SEMINAR IN EDUCATIONAL ADMINISTRATION. COFFMAN.

#### SCHOOL SANITATION AND HYGIENE

141. SCHOOL SANITATION AND PUBLIC HEALTH. A course in school hygiene in its broader aspects. Designed for all teachers and supervisors who are responsible for the health of school children. Treats of medical supervision and other problems arising from school environment.

#### FOREIGN SCHOOLS

131. GERMAN SCHOOLS. Study of the existing school systems of Germany and with emphasis upon present conditions and problems. NORMAN.

132. FRENCH SCHOOLS. A study of the existing school systems of France with emphasis upon present conditions and problems. NORMAN.

#### RELIGIOUS EDUCATION

146. HISTORY AND PRINCIPLES OF RELIGIOUS EDUCATION. Part I: The influence of religion and religious education as social and spiritual forces among certain selected types. Part II: Principles of education as applied to religious instruction and training. This course may be pursued as a graduate course under certain conditions. SWIFT.

#### PRACTICE TEACHING

115a-115b. PRACTICE TEACHING. Teaching under supervision in the University High School and in the Minneapolis City Schools, in the regular secondary school subjects. The course calls for one period daily at the school where the work is assigned.

#### METHODS OF TEACHING

1. General Method. See above Course 11 (Technique of Teaching).
2. Teachers' Courses or Courses in Special Methods of Teaching High School Subjects.

A description of the methods courses offered in the Rural Training Department is given immediately after the following tabular statement.

A recent ruling of the State Department of Education requires courses in special methods of at least two different high-school subjects totaling at least three credits, for all applicants for the State Professional Teachers' Certificate. In some cases the amount of work necessary to meet this requirement will total six credits. In other cases a single teachers' course totaling only three credits is arranged in such a way as to cover two subjects, thereby satisfying this requirement; an example of this is the teachers' course in English and Rhetoric.

## METHODS COURSES

No.	Credits	Title		Offered to	Prereq. courses
31-32	3 <sup>†</sup>	Animal Biology	2, 3, 4	T Jr., sr. 213AB	12 cr. in An. Bio. Sigerfoos
121 122	6	Botany	4	MWF Jr., sr., grad. 200P	12 cr. Clements
20	2	Chemistry	Ar	Ar Sr.	3-4 or 7-8 or 21-22 Ward
*80	3	English (and rhetoric)	Ar 3-4:30	Ar Jr., sr. 113Ed	See statement Inglis
55	2	Geography	WF 8	Jr., sr., grad. 105P	See statement Posey
59-60	2	German	4	Jr., sr. 209F	29-30 & 31-32 or 53-54 Schlenker
56-57	3	History & Political Science	4	Jr., sr. 111Lib	See statement Krey
101	3	Latin	9	Jr., sr. 109F	58 Pike
*1	1	Library Methods	11	Jr., sr. 203Ld	None Wilson
*4	1	Cataloging	11	Jr., sr. 203Ed	None Wilson
*11-12	3	Manual Training	3	Sr. 114Ed	1-6 McGarvey
54	2	Mathematics	3	Jr., sr. 115Ed	11 Reeve
110	2	Norwegian	4 & 5	Jr., sr., grad. 206F	3-4 Bothne
27-28	6	Music	4, 5	Jr., sr. 117Ed	..... Giddings
15-16	6	Physical Education	Lect. 10 Lab. 2	ThS MWF 201WGm 3, 151, 153WGm	1-2, 3-4, 21-22, 31-32 Kissock, Ladd, Tolg Kissock, Ladd, Tolg
90	1	Physics		Sr. Ar	2 & 4, 8 & 10, or 2 yrs. Physics Zeleny
56-57	3	Political Science & History	4	Ar Jr., sr. 111Lib	See statement Schaper
*80	3	Rhetoric (English)	3-4:30	Ar Jr., sr. 113Ed	See statement Inglis
161-162	2	Romance Languages	2	Th Jr., sr., grad. 201F	See statement Olmsted
10	2	Teachers' Course in Norwegian	4 & 5	Th Sr., grad. 206F	3-4 Bothne
116	2	Swedish	Ar	Ar Sr., grad. 206F	7-8 Stomberg
*152	1	Elem. Methods in Reading	5	Ar Jr., sr., grad. 102Ed	1 or 101-102 Lommen
*153	1	Elem. Methods in English	5	Ar Jr., sr., grad. 102Ed	1 or 101-102 Harlan
*154	1	Elem. Methods in Indus. Arts.	Ar	Ar Jr., sr., grad. Col. of Agr.	1 or 101-102 Lommen
*155	1	Elem. Methods in History	5	T Jr., sr., grad. 102Ed	1 or 101-102 Lommen
*156	1	Elem. Methods in Geography	5	T Jr., sr., grad. 102Ed	1 or 101-102 Lommen
*157	1	Elem. Methods in Arithmetic	Ar	Ar Jr., sr., grad. Ar	1 or 101-102 Harlan

<sup>†</sup> Both semesters must be completed before credit is given for the first semester.

\* Receives credit only in College of Education.

## HIGH SCHOOL TRAINING DEPARTMENT METHODS

152. ELEMENTARY METHODS IN READING. The place of reading in the rural school curriculum. Different types of lessons, equipment, materials, adaptation to needs of rural community. LOMMEN.

153. ELEMENTARY METHODS IN ENGLISH. The place of English in the rural school curriculum. Different types of lessons, equipment, materials, adaptation to needs of rural community. HARLAN.

154. ELEMENTARY METHODS IN INDUSTRIAL ARTS. The place of industrial arts in the rural school curriculum. Different types of lessons, equipment, materials, adaptation to needs of rural community. LOMMEN.

155. ELEMENTARY METHODS IN HISTORY. The place of history in the rural school curriculum. Different types of lessons, equipment, materials, adaptation to needs of rural community. LOMMEN.

156. ELEMENTARY METHODS IN GEOGRAPHY. The place of geography in the rural school curriculum. Different types of lessons, equipment, materials, adaptation to needs of rural communities. LOMMEN.

157. ELEMENTARY METHODS IN ARITHMETIC. The place of arithmetic in the rural school curriculum. Different types of lessons, equipment, materials, adaptation to needs of rural communities. HARLAN.

## AGRICULTURAL EDUCATION

Professors ASHLEY V. STORM, DEXTER D. MAYNE; Associate Professor WILBUR H. BENDER; Assistant Professor WILLIAM F. LUSK; Extension Specialists THEODORE A. ERICKSON, GEORGE F. HOWARD.

*General Statement.* For specialization in this department see special requirements in Course of Study.

## COURSES

No. Credits	Title		Offered to	Prereq. courses
11a 3	Prin. of Industrial Education...	9:50-10:35	TThS	317A
11b 3	Prin. of Industrial Education...	10:45-11:30	TThS	317A
21 3	Industrial Education .....	8:00-8:45	TThS	317A
131a 3	Methods in Teaching High School Agriculture .....	8:55-9:40	TThS	Sr.
141a 3	Teaching .....	8:55-9:40	MWF	317A
141b 3	Teaching .....	9:50-10:35	MWF	317A
151a 3	Organ. and Management.....	10:45-11:30	MWF	Sr.
151b 3	Organ. and Management.....	10:45-11:30	MWF	317A

All Lusk None  
 All Lusk None  
 All None  
 Sr. 11  
 Sr. 11 and 131  
 Sr. 11 and 131  
 Sr. Storm, Bender, Lusk  
 Sr. Storm, Bender, Lusk  
 None  
 Storm None  
 Sr. Storm

## INTRODUCTORY COURSES

11a. PRINCIPLES OF INDUSTRIAL EDUCATION. A study of the fundamental principles upon which education is based. Throughout the course emphasis is placed on those phases which are most closely related to industrial education. LUSK.

11b. PRINCIPLES OF INDUSTRIAL EDUCATION. Same as Course 11a.

21. INDUSTRIAL EDUCATION. A short history of industrial education; the present status in Europe and United States; manual training and home arts in an educational system; the place of agriculture in the public schools; trade and vocational schools. MAYNE.

## ADVANCED COURSES

131a. METHODS IN TEACHING HIGH-SCHOOL AGRICULTURE. Fundamental elements of method in teaching as related to teaching agriculture in high school. Organizing subject matter of daily work; selection and manipulation of devices. Classroom and laboratory method. Specific plans for teaching secondary agriculture. BENDER.

141a. TEACHING. Observation of regular classes; interpretation of class practices; preparation of lesson plans and actual teaching of classes under careful supervision in recitation and laboratory; criticism and discussion of plans, methods, and results of student's teaching. STORM, BENDER, LUSK.

141b. TEACHING. Same as Course 141a.

151a. ORGANIZATION AND MANAGEMENT. Organization and management of work in secondary schools, particularly of Minnesota, with special reference to agricultural work, courses of study, programs, equipment, laboratory and class management, extension work, plots, and coördination of work. STORM.

151b. ORGANIZATION AND MANAGEMENT. Same as Course 151a.

## HOME ECONOMICS EDUCATION

Professor JOSEPHINE T. BERRY; Assistant Professors MABEL B. TRILLING, MARION WELLER; Instructor MILDRED WEIGLEY.

## COURSES

No. Credits	Title		Offered to	Prereq. courses
HE42 3	Home Economics Education...	Jr.		He22, Psychol. 5b
	8:55-9:40 MWF	213He		Berry
HE44 3	Organ. & Methods of Teaching for Textiles and Clothing....	Jr.		He13, Psychol. 5b
	8:55-9:40 MWF	213He		Berry, Weller
HE45 1	Home Economics Education....	Sr.		He42
	8:55-9:40 S	213He		Berry
HE46 1	Home Economics Education....	Sr.		He45
	8:55-9:40 S	213He		Berry

HE47	3	Observation and Teaching.....	Sr.	He42
		8:00-8:45	TThS	21311e
HE48	3	Observation and Teaching.....	Sr.	He42
		8:00-8:45	TThS	30911e

## COURSES

H.E. 42. HOME ECONOMICS EDUCATION. Curricula, textbooks, equipment, methods of teaching, and class management, as applied to the teaching of Home Economics. BERRY.

H.E. 44. ORGANIZATION AND METHODS OF TEACHING FOR TEXTILES AND CLOTHING. A combination with Course H.E. 42, dealing with adaptations to the teaching of Textiles and Clothing. BERRY, WELLER.

H.E. 45. HOME ECONOMICS EDUCATION. A continuation of H.E. 42. BERRY.

H.E. 46. HOME ECONOMICS EDUCATION. A continuation of H.E. 45. BERRY.

H.E. 47. OBSERVATION AND TEACHING. Observation of teaching in regular classes; criticism and discussion of class practice, lesson plans, methods, results, and examinations; preparation of lesson plans, and directed teaching of foods and cookery and home management. WEIGLEY.

H.E. 48. OBSERVATION AND TEACHING. A course similar to Course H.E. 47 but dealing with the teaching of textiles and clothing. TRILLING.

## MANUAL TRAINING

## REQUIREMENTS OF THE DEPARTMENT

For a Minor, the seventeen credits required in the prescribed course outlined below, or their equivalent.

For a Major, manual training cannot be offered as a major.

For a Teacher's Certificate, completion of the following prescribed course or its equivalent and the Educational work outlined under course of study for University Teachers' Certificate.

## COURSES

No.	Credits	Title	Offered to	Prereq. courses
1	1½	Mechanical Drawing .....	Jr.	None
		4-6 TTh	114Ed	McGarvey
2	1½	Mechanical Drawing .....	Jr.	1
		4-6 TTh	114Ed	McGarvey
3	2	Descriptive Geometry .....	Jr.	None
		10-11 MTThS	101MechE	Kirchner
		1-2 M		
		Lect. 9 Th		
		or Lect. 9 W		
		10-12 TWThS	101MechE	Kirchner
		Lect. 9 Th		
		8-10 MWF	101MechE	Kirchner
		3-5 F		
		Lect. 9 F		
		8-10 WF	101MechE	Kirchner
		1-3 WF		
		Lect. 9 T	101MechE	Kirchner

5 2	Wood Work .....	Jr.	None
	4-6 MWF	114Ed	McGarvey
6 2	Wood Work .....	Jr.	5
	4-6 MWF	114Ed	McGarvey
7 2	Wood Turning & Pattern Making	Sr.	1-5
	8-11 ThS	102MechE	Richards
	9-12 MF	102MechE	Richards
8 2	Foundry Work .....	Sr.	1-5, 7
	8-11 ThS	104MechE	.....
	9-12 MF	104MechE	.....
9 2	Forge .....	Sr.	1-5
	8-11 ThS	102MechE	Quigley
	9-12 MF	102MechE	Quigley
10 2	Machine Shop .....	Sr.	1-5
	8-11 ThS	104MechE	Shipley
	9-12 MF	104MechE	Shipley
11-12 3	Teaching and Supervision of Manual Training .....	Sr.	1-6
	3 MWF	114Ed	McGarvey

NOTES: 1. In all Manual Training courses each credit hour calls for at least three hours of shop work.

2. In courses 1-3 students provide their own instruments and materials. A laboratory fee of three dollars per course will be charged for courses 5-10, inclusive.

1. MECHANICAL DRAWING. A course to develop the principles of free-hand drawing and simple perspective. The use of drawing instruments, lettering, the making of working drawings, tracing, and blue printing. McGARVEY.
2. MECHANICAL DRAWING. Orthographic and isometric projection, lettering, drawing from machine models, cabinet drawing, topographic drawing, shop details, and elements of architectural drawing. McGARVEY.
3. DESCRIPTIVE GEOMETRY. Note. Course offered in the Engineering College, No. 9. KIRCHNER.
5. WOOD WORK. Work adapted to upper grammar grades and first year high school, with the emphasis placed upon the preparation of models suitable for these grades. Student demonstrations of simple projects. Shop fee \$3.00. McGARVEY.
6. WOOD WORK. Selection, installation, and care of wood-working machines, application of design to wood-working problems, the group plan of working on projects, use of model structures, application of Manual Training to some simple structure. Work suitable to the different types of high schools. Shop fee \$3.00. McGARVEY.
7. WOOD TURNING AND PATTERN MAKING. RICHARDS.
8. FOUNDRY WORK. .....
9. FORGE. QUIGLEY.
10. MACHINE SHOP. SHIPLEY.

11-12. THE TEACHING AND SUPERVISION OF MANUAL TRAINING—TEACHERS' COURSE. A study of the history and aims of Industrial Education and the methods of presenting Manual Training and Drawing to grade and high school pupils. The outlining of courses and the selecting of equipment adaptable to different types of school systems. **McGARVEY.**

### TEACHERS OF PHYSICAL EDUCATION

Seniors desiring special teachers' certificates in physical education will be expected to complete the courses listed below.

No.	Title	Credits
13	Personal Hygiene .....	3
5-6	Advanced Physical Training .....	3
	Theory of Physical Education.....	6
	Practice Teaching .....	6
3a	Social Education .....	3
11a	Technique of Teaching.....	3
1 or 101-102	History of Education.....	3
141	School Sanitation and Public Health.....	3

### TEACHER-LIBRARIAN TRAINING

Lecturer **MARTHA WILSON.**

The satisfactory completion of the following courses will render a student eligible for a high-school teacher-librarian certificate, provided he has complied with the other regulations leading to a certificate and degree in the College of Education. (See statement, page 22.)

#### COURSES

No.	Credit	Title	Offered to	Prereq. courses
1	1	Elementary Library Methods .....	Jr., sr.	None
	11	S	203Ed	Wilson
2	1	Library Organization .....	Jr., sr.	1
		(Not offered in 1916-17)		
4	1	Cataloging .....	Jr., sr.	1
	11	S	203Ed	Wilson

1. ELEMENTARY LIBRARY METHODS FOR TEACHERS. Introductory course—problems of the high-school library, arrangement, selection of books, catalogs, book lists, methods of ordering books, and library cards; training teachers to teach students the use of the high-school library. **WILSON.**
2. LIBRARY ORGANIZATION. Library organization, including classification, arrangement, and school library administration. (Not offered in 1916-17). **WILSON.**
4. CATALOGING. Definite training in elementary cataloging, the making of a dictionary catalog, and the use and adaptation of Library of Congress and other printed catalog cards. **WILSON.**

## HIGH-SCHOOL RURAL TRAINING

Director LOTUS D. COFFMAN; Lecturers MABEL CARNEY, CHARLES L. HARLAN, GEORGIANA LOMMEN.

## REQUIREMENTS OF THE DEPARTMENT

1. *For Admission.* (1) Two years of rural teaching experience; (2) Advanced diploma from a State Normal School. For exceptions, see statement, page 23.

2. *For Recommendation for State Endorsement.* For explanation, see page 23 of this bulletin.

Students who complete the following course will be eligible for recommendation for the endorsement of the State Department of Education as teachers of high-school rural training departments.

In the following course, Education is selected as a major. The two minors recommended are English and Economics. The Education courses, in *italics* are all required, but previous training, experience, and needs of the student may modify his choice of minors and of other electives. Normal school graduates are credited with the History of Education and Introductory Psychology, consequently these courses are not included in the following outline. (See also page 23.)

PRESCRIBED COURSE FOR HIGH SCHOOL RURAL TRAINING TEACHERS  
JUNIOR YEAR

	<i>First Semester</i>	<i>Second Semester</i>	
	Credit	Credit	
Education:		Education:	
107. <i>Problems of the Training Department</i> (monthly lectures and conferences) Miss Carney	..... None	108. <i>Continuation of 107</i> ..... None	..... None
3a. <i>Social Aspects of Educ.</i> .....	3	152. <i>Elem. Meth. in Read.</i> .....	1
Philosophy:		154. <i>Elem. Meth. in Ind. Arts</i> ....	1
17. <i>Methods of Study</i> .....	3	156. <i>Elem. Meth. in Geog.</i> .....	1
Economics:			
3b. <i>General Economics</i> .....	3		
English:		English:	
1. <i>General Survey</i> .....	3	2. <i>General Survey</i> .....	3
		Home Economics*† .....	3

## SENIOR YEAR

	<i>First Semester</i>	<i>Second Semester</i>	
	Credit	Credit	
Education:		Education:	
107. <i>Problems of the Training Department</i> (monthly lectures and conferences) Miss Carney	..... None	108. <i>Continuation of 107</i> ..... None	..... None
		112. <i>Industrial Education</i> .....	3
		115. <i>Practice Teaching</i> .....	3

\* Courses to be selected according to individual interests after conferences with head of department.

† A course in Home Economics especially designed for teachers of high school training departments will be arranged in case the number of registrations and the community of needs of students warrants this.

111a. Technique of Teaching.....	3	Philosophy:	
123. School Supervision .....	3	18. Child Development .....	3
153. <i>Elem. Meth. in English</i> ....	1		
155. <i>Elem. Meth. in History</i> ....	1		
157. <i>Elem. Meth. in Arith.</i> .....	1		
Sociology:		Sociology:	
119. The Family .....	3	120. Social Progress .....	3
		6. Social Reform Movements....	3
English:		English:	
63. 19th Century Literature.....	3	122. American Literature .....	3
Agriculture* .....	3		

Descriptions of all courses above not definitely referred to in footnotes will be found in the proper Departmental Statement.

## ANATOMY

Professors CLARENCE M. JACKSON, JOHN B. JOHNSTON, THOMAS G. LEE,  
RICHARD E. SCAMMON; Associate Professor CHARLES A. ERDMANN;  
Instructor JAY A. MYERS.

### REQUIREMENTS OF THE DEPARTMENT

*For a Minor*, twelve credits.

*For a Major*, twenty-four credits.

Prerequisites in Animal Biology may be counted as a part of the work for a minor or major.

### COURSES

No. Credits	Title		Offered to	Prereq. courses
3-4 10	Gross Human Anatomy .....	Soph., ir., sr.		An. Biol. 1-2
	Lab. 8, 9, 10, 11 TThS	304-308IA	Jackson, et al.	
	Lect. 1 MW	304IA	Jackson	
101 5	Human Histology .....	Jr., sr.		An. Biol. 7
	Lab. 8, 9, 10 MWF	105-108IA	Scammon, et al.	
	Lect. 11 MF	102IA	Scammon	
102 3	Human Embryology .....	Jr., sr., grad.		An. Biol. 7
	Lect. 11 MW	102IA	Scammon	
	Quiz. 3 Th	106-108IA	Lee, et al.	
	Lab. 3, 4, 5 M or W or F	106-108IA	Lee, et al.	
103 3	Human Neurology .....	Sr., grad.		Anat. 101 & 102 or An. Biol. 7-8 or 19-20
	Lab. 8, 9, 10 ThS	214-215IA	Johnston, et al.	
114 3	Topographic Anatomy .....	Sr., grad.		3-4
	Lab. 1, 2, 3 TTh	313IA	Jackson	
115 3	Fetal Anatomy .....	Sr., grad.		3-4 and 102 or An. Biol. 137
	Lab. Ar. TTh	214IA	Scammon	

General Zoology (Animal Biology 1) is an additional prerequisite for all courses in Human Anatomy.

NOTE: Since the number of students in anatomy courses Nos. 3-4, 101 and 102, is limited, students will not be permitted to register for these courses without written permission by the head of the department.

All of the above courses receive credit in the College of Education. For description see College of Science, Literature, and the Arts bulletin, page 88.

## ANIMAL BIOLOGY

Professors HENRY FRANCIS NACHTRIEB, JOHN B. JOHNSTON, THOMAS S. ROBERTS, CHARLES P. SIGERFOOS; Associate Professor HAL DOWNEY; Assistant Professors ELMER J. LUND, OSCAR W. OESTLUND; Instructors GEORGE DELVIN ALLEN, CHARLES E. JOHNSON; Assistants ADOLPH RINGOEN, HELEN SANBORN; Teaching Fellows ROYAL N. CHAPMAN, HERBERT E. METCALF.

## REQUIREMENTS OF THE DEPARTMENT

*For a Minor*, twelve credits.

*For a Major*, twenty-four credits.

*For B.A. with Honors*, freshman year, Course 1-2; sophomore year, the student may elect from Courses 7-8, 15-16, 19-20, 23-24; during the junior year the student must elect from Courses 31 to 144, and must include some line of work begun in the sophomore year which he expects to pursue during the senior year under 161-162.

*For a Teacher's Certificate* an average of one and one-half honor points and six other credits in Animal Biology and six credits in Botany.

## JOURNAL CLUB

The professors, instructors, and advanced students of the department meet once a week to review and discuss current zoological literature and to listen to reports from those carrying on investigations.

## COURSES

No.	Credits	Title	Offered to	Prereq. courses
1-2	6	General Zoology .....	All	None
	1	Lab. 8, 9	WF	101AB
		Lect. 10	WF	312AB
	2	Lab. 10, 11	WF	101AB
		Lect. 9	WF	312AB
	3	Lab. 1, 2	M	101AB
		Lab. 2, 3	W	101AB
		Lect. 1	WF	312AB
	4	Lab. 8, 9	ThS	101AB
		Lect. 10	ThS	312AB
	5	Lab. 10, 11	ThS	101AB
		Lect. 9	ThS	312AB
		Extra Laboratory Classes		
	6	Lab. 8, 9	MT	101AB
	7	Lab. 10, 11	MT	101AB
7-8	6*	Histology-Embryology .....	Soph., jr., sr.	1-2
		10, 11	MWF	201, 211AB
				Downey
12	3	Histological Technique ....	Soph., jr., sr.	1-2 and 7-8
		See Anatomy Schedule.		
15-16	6*	General Physiology .....	Jr., sr.	12 cr. in An. Biol. or Zool. 1-2 & Chem. 13-14 or 35-36
		2, 3	MWF	Lund
19-20	6*	Comp. Gross Anat. of Vert.	Soph., jr., sr.	1-2
		2, 3	MWF	Johnson

23-24	6*	Entomology .....	Soph., jr., sr.	1-2
		10, 11 MWF	208, 210AB	Oestlund
		8, 9 TThS	208, 210AB	Oestlund
28	3	Ornithology .....	Soph., jr., sr.	1-2
		2, 3, 4 TTh	211, 314AB	Roberts
30	3	Neurology .....	Soph., jr., sr.	1-2
		Ar Ar	215IA	Johnston
31-32	3*	Nature Study .....	Jr., sr.	12 cr. in An. Biol.
		2, 3, 4 T	213AB	Sigerfoos
51	3†	Protozoology .....	Jr., sr.	9 cr. inc. 1-2
		8, 9 TThS	213AB	Sigerfoos
56	3†	Morphology of Invertebrates	Jr., sr.	9 cr. inc. 1-2
		8, 9 TThS	213AB	Sigerfoos
101-102	6	Advanced Entomology ....	Jr., sr., grad.	1-2, 23-24
		2, 3 MWF	208, 210AB	Oestlund, Chapman
107-108	6	Gen. Ecology of Insects...	Jr., sr., grad.	1-2, 23-24
		2, 3, 4 TTh	208, 210AB	Oestlund, Chapman
115-116	6	Mammalogy .....	Jr., sr., grad.	1-2, 7-8, or 19-20
		4, 5 MWF	107, 109, 211AB	Johnson
119-120	6	Vertebrate Histology .....	Sr., grad.	1-2, 7-8, 12
		3, 4 TThS	201, 211AB	Downey
123-124	6†	Blood of Vertebrates.....	Sr., grad.	1-2, 7-8, 12, 137-138, reading knowledge of French and German
		3, 4 TThS	201, 211AB	Downey
131-132	6†	Embryology .....	Jr., sr., grad.	1-2, 7-8
		10, 11 MWF	211, 202AB	Nachtrieb
143-144	6	Genetics and Eugenics.....	Sr., grad.	1-2, 7-8, or 131-132, 15-16
		2, 3, 4 TTh	220, 211AB	Nachtrieb
161-162	6 or 12	Problems .....	Sr., grad.	1-2 and other courses prescribed by dept.

Hours, days, and rooms arranged.

So far as possible students should register for both lecture and laboratory work in the same section.

† Both semesters must be completed before credit is given for the first semester. Courses 51 and 56 may be combined for a year-course.

31-32. NATURE STUDY. Discussions, reference, field and laboratory work, through the year, once a week and, in addition, field trips Saturday afternoons during the autumn and spring months. Especially for the fitting of teachers in secondary schools. SIGERFOOS.

## ASTRONOMY

Professor FRANCIS P. LEAVENWORTH; Assistant Astronomer WILLIAM O. BEAL.

### REQUIREMENTS OF THE DEPARTMENT

For a Minor, Courses 51-52 and 101-102 (the latter taken as a three-hour course), or Courses 13-14 and 101-102 (the latter taken as a three-hour course).

For a Major, Courses 21, 51-52, and 101-102 (the latter taken as a six-hour course), and Mathematics 4.

For *B.A. with Honors*, the general requirements (page 15), Courses 51-52, 101-102 (as a six-hour course), and six credits in Physics.

*Starred Courses.* The College of Education has as yet adopted no system of starred courses. Nevertheless, candidates for the degree of Bachelor of Arts with Distinction will in some cases be obliged, in order to meet the departmental requirements, to be guided by this system and should therefore consult the departmental statements in the Science, Literature, and the Arts bulletin.

#### ASTRONOMICAL OBSERVATORY

The Astronomical Observatory contains a ten and one-half inch refracting telescope furnished with a third lens for converting it into a photographic telescope; a five-inch star camera; a filar micrometer; a spectroscope by Brashear; a meridian circle and zenith telescope; a Repsold photographic measuring machine; a chronograph, and astronomical clocks.

#### COURSES

No. Credits	Title	Offered to	Prereq. courses
9-10 3	Descriptive Astronomy ...	Soph., jr., sr.	None
7:30 p.m.	T	124F	Beal
11a 3	Descriptive Astronomy ...	Soph., jr., sr.	None
9	MWF	124F	Leavenworth
11	TThS	124F	Beal
11b 3	Descriptive Astronomy ...	Soph., jr., sr.	None
11	MWF	124F	Leavenworth
11	TThS	124F	Beal
13-14 6	Descr. Astr. & Obs. Pract.	Soph., jr., sr.	None
9	TThS	124F	Beal
*51-52 6	General Astronomy .....	Jr., sr.	1 yr. mathematics
2	MWF	124F	Leavenworth
62a 3	Elem. of Pract. Astr. ....	Soph., jr., sr.	1 yr. mathematics
Ar	Ar	124F	Beal
62b 3	Elem. of Pract. Astr. ....	Soph., jr., sr.	1 yr. mathematics
Ar	Ar	124F	Beal
*101-102 6 or 12	Practical Astronomy .....	Jr., sr., grad.	Math. 7 and 11
10	TThS or MTWThFS	124F	Leavenworth
*140 2	Method of Least Squares.	Sr., grad.	Math. 51
Ar	Ar	O	Leavenworth

All of the above courses receive credit in the College of Education. For description see College of Science, Literature, and the Arts bulletin, pages 39-40.

#### BACTERIOLOGY

Associate Professor WINFORD P. LARSON; Instructors ARTHUR T. HENRICI, ANNE BENTON.

#### COURSES

No. Credits	Title	Offered to	Prereq. courses
58a 4	General Bacteriology .....	Soph., jr., sr.	Gen. Chem. & either Zool. 1-2 or Bot. 1
2, 3	MWF	Lab. PII&P	Larson

58b	4	General Bacteriology .....	Soph., jr., sr.	Gen. Chem. & either Zool. 1-2 or Bot. 1
		Ar Ar	PH&P	Larson
59	3	Special Bacteriology .....	Jr., sr., grad	Bact. 58
		Ar Ar	PH&P	Larson
104	3	Special Bacteriological Technique. 2, 3	Jr., sr., grad. MWF	Bact. 58 Lab. PH&P
				Larson, et al.

All of the above courses receive credit in the College of Education. For description see College of Science, Literature, and the Arts bulletin, pages 40-41.

## BOTANY

Professors FREDERIC E. CLEMENTS, CARL OTTO ROSENDAHL, JOSEPHINE E. TILDEN; Assistant Professors HERBERT F. BERGMAN, \*FREDERIC K. BUTTERS, NED L. HUFF; Instructor WILLIAM S. COOPER; Assistants DONALD FOLSOM, FRANCES L. LONG, HARVEY STALLARD, Vinnie A. PEASE; Teaching Fellow ARTHUR M. JOHNSON.

### REQUIREMENTS OF THE DEPARTMENT

*For a Minor*, twelve credits, of which not more than six credits may be in introductory courses.

*For a Major*, twenty-four credits.

*For B.A. with Honors*, the general requirements (page 15); thirty-six credits in Botany, of which twenty-four shall be selected from advanced Courses 105-106 to 119-120 inclusive. Those electing the Honors Course are urged to secure twelve credits during the sophomore year.

*For a Teacher's Certificate*, an average of at least one honor point for each credit hour in one introductory and one intermediate course, and in Course 121-122. One year of Zoology is also advised.

Students entering the department without preparation must take Course 1, followed by 2, 3b or 4. Students coming from an approved high school course will take Course 1a, 2 or 3a according to preparation. Those who expect to pursue botany for a single year only will take Course 3b or 4 during the second semester, while those who plan to take a major in botany are advised to take Course 2.

### COURSES

#### Introductory Courses

No. Credits	Title	Offered to	Prereq. courses
1a 3	Gen. Botany, Lab. & Class.. 8, 9	All 207P	None
10, 11	MWF	207P	
1, 2	MWF	207P	
2, 3, 4	MF	212P	
3, 4	MWF	207P	
8, 9	TThS	207P	
10, 11	TThS	207P	
1, 2, 3	TTh	207P	
2, 3, 4	TTh	212P	

\* On leave for the year 1916-17.

## COLLEGE OF EDUCATION

1b	3	Gen. Botany, Lab. & Class..	All	None
		8, 9	MWF	207P
		2, 3, 4	MF	207P
2a	3	Structural Botany .....	All	1, 3a or approved High School Botany
		1, 2	MWF	214P
2b	3	Structural Botany .....	All	1, 3a or approved High School Botany
		10, 11	MWF	207P
		2, 3, 4	MF	214P
		2, 3, 4	TTh	207P
3a	3	Evolution of Plants .....	All	1 or approved High School Botany
		10, 11	MWF	212P
3b	3	Evolution of Plants .....	All	1 or approved High School Botany
		10, 11	MWF	212P
		1, 2	MWF	212P
		2, 3, 4	TTh	212P
4	3	Field and Garden Botany...	All	1, 2 or 3a
		8, 9	MWF	1G
		10, 11	MWF	1G
		1, 2	MWF	1G
		3, 4	MWF	1G
		2, 3, 4	MF	2G
		8, 9	TThS	1G
		10, 11	TThS	1G
		2, 3, 4	TTh	1G

*Intermediate Courses*

5-6	6	Plant Morphology .....	Soph., jr., sr.	6 cr.; see statement
		10, 11	MWF	206P Huff
7-8	6	Taxonomy .....	Soph., jr., sr.	6 cr.; see statement
		10, 11	MWF	20P Rosendahl
		2, 3, 4	TTh	20P Rosendahl
9-10	6	Physiology and Ecology .....	Soph., jr., sr.	6 credits
		Class 3	MF	210P Clements
		Lab. 1, 2	MF	3G Cooper
		Class 3	TTh	210P Clements
		Lab. 1, 2	TTh	3G Cooper
11-12	6	Industrial Botany .....	Soph., jr., sr.	6 cr.; inc. 2 or 3
		10, 11	TThS	212P Tilden
13-14	6	Mycology .....	Soph., jr., sr.	6 credits
		Not offered in 1916-17.		

*Advanced Courses*

*103	3	Foodstuffs and Textiles .....	Jr., sr., grad.	9 credits
		Not offered in 1916-17.		
*105-106	6	Algae .....	Jr., sr., grad.	9 credits
		1, 2, 3	TTh	212P Tilden
*107-108	6	Mosses and Ferns .....	Jr., sr., grad.	9 cr.; inc. 2 or 3, or 5-6
		Not offered in 1916-17.		
*110	6	Gymnosperms .....	Jr., sr., grad.	7-8 or 107-108
		Not offered in 1916-17.		
*111-112	6	Advanced Taxonomy .....	Jr., sr., grad.	7-8
		Not offered in 1916-17.		
*113-114	6	Advanced Ecology .....	Jr., sr., grad.	9-10
		Ar	200P Clements and Cooper	

*115-116	6	Advanced Plant Physiology..	Jr., sr., grad.	9-10
		Ar Ar	200P	Clements and Bergman
*117-118	6	Cytology .....	Jr., sr., grad.	18 credits
		Ar Ar	8P	Rosendahl
*119-120	6	Advanced Industrial Botany.	Jr., sr., grad.	11-12
		Not offered in 1916-17.		
*121-122	6	Plant Studies and Methods..	Jr., sr., grad.	12 credits
	4	MWF	200P	Clements

\*121-122. PLANT STUDIES AND METHODS. The subjects of nature-study and high-school botany presented as they are to be taught; the material considered in detail in proper sequence, and training in method afforded by practice in the University and Minneapolis High Schools. CLEMENTS.

All of the above courses receive credit in the College of Education. For description see College of Science, Literature, and the Arts bulletin, pages 41-45.

## CHEMISTRY

### THE SCHOOL OF CHEMISTRY

Professors GEORGE B. FRANKFORTER, CHARLES F. SIDENER; Associate Professor EVERHART P. HARDING; Assistant Professors IRA H. DERBY, WILLIAM H. HUNTER, EDWARD E. NICHOLSON; Instructors ROSS A. BAKER, FRANK W. BLISS, LILLIAN COHEN, J. GERHARD DIETRICHSON, WOLF KRITCHEVSKY, FRANK H. MACDOUGALL, WOLDEMAR STERNBERG, EARLE K. STRACHAN, H. LEE WARD; Assistants ARTHUR R. CADE, O. D. CUNNINGHAM, ELMER T. FEGAN, FLOYD E. JOYCE, WALTER M. LAUER, ALLEN F. NEWMAN, S. JOSEPH REICHERT.

### REQUIREMENTS OF THE DEPARTMENT

For a Minor, twelve credits.

For a Major, twenty-four credits.

In Chemistry the purpose of the honors course is served by the Five-Year Course in Arts and Chemistry.

For a Teacher's Certificate, an average of at least one and one-half honor points for each credit hour in Courses 1-2 or 3-4 and 7-8 or 11-12; and 20.

### COURSES

#### *Division of General and Inorganic Chemistry*

No. Credits	Title	Offered to	Prereq. courses
1-2 6 <sup>†</sup>	General Chemistry .....	Those entering without chemistry	None
8, 9	TThS	110	
10, 11	MWF	110	
21-22 10 <sup>†</sup>	Inorganic & Qualita. Chem..	Those entering without chemistry	None
Lect. 1	M	100	
Lab. 8, 9	TTh	110	
Rec. 10	TThS	111	

3-4	6†	Adv. Gen. Chem. & Qu. An.	Fr., soph., jr.	Entrance cr. in chem.
		Lect. 1 M	100	
		Lab. 2, 3 MW	110	
		Rec. 2 or 3 F	111	
		Lab. 10, 11 TTh	110	
		Rec. 10 or 11 S	115	
7-8	6†	Qualitative Analysis .....	Soph.	1-2
		8, 9 MWF	210	Nicholson
		10, 11 MWF	210	Bliss
10	1	Glass Blowing .....	Jr., sr.	None
		Ar Ar	49	Baker
17	2	Inorganic Colloquium .....	Sr.	11-12
		11 MW	111	Baker
20	2	Teachers' Course .....	Sr.	3-4 or 7-8 or 21-22
		Ar Ar	Ar	Ward
*167-168	4†	Adv. Inorganic Chemistry..	Jr., sr.	2 yrs. college chem.
		Ar Ar	Ar	Baker
*169-170	4†	Chem. of the Rare Elements.	Jr., sr.	11-12
		Ar Ar	Ar	Nicholson

*Division of Analytical Chemistry*

*11-12	8†	Quantitative Analysis .....	Jr., sr.	3-4 or 7-8, or 21-22 & 1 year math. or physics 1‡
		1-5 F	310	Sidener
		2-5 MW	310	Sidener
*107-108	6†	Adv. Quantitative Analysis.	Jr., sr.	11-12
		Ar Ar	317	Sidener

*Division of Organic Chemistry*

13-14	6†	Medical Organic Chemistry.	Soph.	3-4 or 7-8 or 21-22
		Lect. 1 WF	325	Hunter
		Lab. 2-5 T	10	Hunter
		Lab. 3 hrs. Ar	10	Hunter
18	2	Organic Colloquium .....	Sr.	35-36
		Ar Ar	Ar	Frankforter
*35-36	8†	Organic Chemistry .....	Jr., sr.	3-4 or 7-8 or 21-22 & 1 yr. Biol. Science
		Lect. 11 TTh	100	Frankforter
		Lab. 2-5 MW	10	Kritchevsky
		Rec. 1 W	315	Kritchevsky
*115	2	Adv. Organic Chemistry ...	Sr.	35-36
		Ar Ar	Ar	Hunter
*116	2	Theoretical Organic Chem..	Sr.	35-36
		Ar Ar	Ar	Hunter

*Division of Physical Chemistry*

*121-122	4†	Physical Chemistry .....	Jr., sr.	35-36, Physics 2 & 4
		11 WF	115	Derby
*123-124	2†	Physico-chemical Lab. ....	Jr., sr.	Must be taken in conjunction with 121-122
		2-5 F	117	Derby
*125-126	6†	Adv. Physical Chemistry...	Sr.	121-122
		Ar Ar	Ar	Derby
*128	2	Radiochemistry .....	Jr., sr.	3-4 or 7-8 or 21-22 & Physics 2 and 4
		Ar Ar	Ar	Derby

## Division of Technological Chemistry

27-28	4†	Chem. in Every Day Life...	Jr., sr.	3-4 or 7-8 or 21-22
		2-5:30 TTh	Ar	Frankforter and Harding

## Division of Industrial Chemistry

15	2	Photochemistry .....	Jr., sr.	3-4 or 7-8 or 21-22
		Lect. 8 M	27	Strachan
		Lab. 2-5 Th	27	Strachan
16	2	Color Photography .....	Jr., sr.	15
		Lect. 8 M	27	Strachan
		Lab. 2-5 Th	27	Strachan

† Both semesters must be completed before credit is given for the first semester.

‡ This physics may be taken at the same time.

## 20. TEACHERS' COURSE. For those who expect to teach Chemistry. WARD.

All of the above courses receive credit in the College of Education. For description see College of Science, Literature, and the Arts bulletin, pages 45-49.

## COMPARATIVE PHILOLOGY

Professor FREDERICK KLAEBER.

## REQUIREMENTS OF THE DEPARTMENT

For a Minor, Courses 101, 102, 106, 109, 110, 141.

For a Major, Courses 101, 102, 106, 109, 110, 141, with German 3-4 (or 5-6) and 7-8 and English 1-2 as prerequisites.

For B.A. with Honors. The required credits in the major may be elected from the undergraduate courses of the department and English 8, 101, 103, and German 107-108.

This department, besides offering courses in the general principles of linguistic science, affords an opportunity for elementary studies in Comparative Indo-European Philology, and more particularly the investigation of Old Germanic dialects. Related courses in English Philology will be found under English Language and Literature.

## COURSES

No.	Credit	Title	Offered to	Prereq. courses
*101	2	Science of Language.....	Jr., sr., grad.	See statement
		2 WF	205F	Klauber
*102	2	Science of Language (Adv.)	Jr., sr., grad.	Same as for 101
		See statement		
*104	2	Germanic Philology .....	Jr., sr., grad.	Same as for 101
*105	1	Universal Language .....	Jr., sr., grad.	Same as for 101
	10	S	302F	Klauber
*106	2	Life of Words .....	Jr., sr., grad.	Same as for 101
	2 WF		205F	Klauber
*109-110	4†	Hist. of German Language..	Sr., grad.	German 53, 54
		See statement		
*141-142	4	Hist. Gram. of Eng. Language	Jr., sr., grad.	English 1-2, 3
	2	TTh	205F	Klauber

† Both semesters must be completed before credit is given for either semester.

All of the above courses receive credit in the College of Education. For description see College of Science, Literature, and the Arts bulletin, pages 49-50.

## DRAWING AND DESCRIPTIVE GEOMETRY

Professor WILLIAM H. KIRCHNER; Instructor ROBERT W. FRENCH.

## COURSES

No.	Credit	Title	Offered to	Prereq. courses
21-22	4	Technical Drawing ..... 8; 9 MWF	All 13MechE	None Kirchner, French, et al.

**21-22. TECHNICAL DRAWING.** Theoretical and practical graphics, the reading and making of working plans. Projection, sketching, lettering, conventions, renderings, and translations. KIRCHNER, FRENCH.

## ECONOMICS

Professors JOHN H. GRAY, E. DANA DURAND; Assistant Professors ROY G. BLAKELY, J. FRANKLIN EBERSOLE, THOMAS WARNER MITCHELL; Instructors LLOYD M. CROSGRAVE, WILLIAM W. CUMBERLAND, HARRY D. HARPER, ALBERT C. JAMES, ROBERT J. MC FALL; In the General Extension Division, Associate Professor CLARE L. ROTZEL; Assistant Professor CHARLES H. PRESTON; Instructor RAYMOND V. PHELAN.

## REQUIREMENTS OF THE DEPARTMENT

*For a Minor*, twelve credits.

*For a Major*, twenty-four credits, including Course 4.

*For B.A. with Honors*, thirty credits in the major line of work with the usual supporting credits, and not less than sixty credits altogether in Group B.

*For a Teacher's Certificate in Business Subjects*, a major in Economics, including Accounting and Economic Geography.

*Vocational Course in Business Education.* The requirements for this course leading to the B.A. degree may be found on page 27 of the Science, Literature, and the Arts bulletin.

The departments of Economics, Political Science, History, and Sociology and Anthropology constitute a social science group. The subjects are intimately inter-related, and they are all of special importance to students who intend to engage in law, business, public service at home or abroad, journalism, the work of charities and corrections, or to give instructions in one of the social sciences. Students who are interested in the work of any one of the departments of the social science group ought to be familiar with at least the elements of the subjects offered in the other departments. A student who takes his major in any one of them ought to have more than the elements of the others.

For admission to candidacy for the Master's Degree, students must have twelve credits in Economics including the equivalent of Courses 3-4. (General Economics). They must also satisfy the Department that they have had an adequate training in the other social sciences for the particular work they wish to do.

## SUGGESTIONS AS TO COURSES IN THE DEPARTMENT

In order to aid students who have some idea as to their intended profession or calling to make a wise choice of courses, the accompanying tabular statement has been prepared.

These recommendations are merely suggestive and more courses are sometimes recommended than suffice to make up a technical minor or major in order that students may choose those courses which interest them the most.

Courses 7 and 8 are not included in these recommendations, as they must, in any case, precede the advanced courses, since they are required of all taking a major in Economics.

Students desiring merely a general acquaintance with Economics as part of a liberal education and as preparation for citizenship are recommended to take the general course and such others, amounting at least to a minor, as their interests may indicate.

## ECONOMICS

In preparation for	Courses advised for a minor	Additional advised for a major
Law .....	76, 145, 146, 191	43, 104, 143, 174
Public Service .....	2, 145, 146, 191	35-6, 101, 164
Consular and Diplomatic Service .....	2, 13, 72, 76, 101	34, 43, 143
Journalism .....	2, 43, 145, 146, 173, 191	101, 104, 143, 161, 164
Engineering or Railway Service .....	49, 145, 146, 173	34, 35-6, 142, 161, 174
Chemistry of Manufactures.	2, 15, 76, 145, 161	34, 35-6, 101, 131
Mining .....	2, 72, 143, 145, 161	13, 22, 142
Banking and Finance.....	43, 48, 101, 143, 145	35-6, 41, 139, 142, 144, 255-56
General Business .....	2, 13, 43, 76, 143	34, 35-6, 142, 145
Forestry or Agriculture.....	13, 15, 18, 22	35-6, 43, 143, 173, 251-2
Teaching Business Subjects.	2, 13, 43, 104	34, 35-6, 41
Medicine .....	2, 43, 164	34, 35-6, 42
Social Service Work.....	2, 161, 163	104, 164, 261-62
The Ministry .....	2, 161, 162	104, 164
Public Accountancy .....	34, 35-6, 132	43, 48, 49, 101, 131, 142, 145, 146, 253-54
Insurance .....	34, 35-6, 48, 49	142, 145, 146

## COURSES

## General Courses

No.	Credit	Title	Offered to	Prereq. courses
3-4	6 <sup>†</sup>	General Economics .....	Soph., jr., sr.	None <sup>‡</sup>
	8	MWF	202MA	Blakey, et al.
	9	TThS	Ar.	Blakey, et al.
	9	MWF	209MA	Paton
	3	MWF	209MA	Paton
(Teachers) 4 to 5 <sup>‡</sup> :15		MW	109MA	Crograve
3b	3 <sup>§</sup>	General Economics .....	Soph., jr., sr.	None <sup>‡</sup>
(Part I, Second Semester)				
	II	TThS	Ar	
	I	MWF	202MA	

<sup>†</sup> Both semesters must be completed before credit is given.

<sup>‡</sup> Credit given only after Course 4 is completed.

<sup>§</sup> Not open to students in the vocational curriculum.

5	3	Economic Development .... See statement	Soph., jr., sr.	None
7a or 7b	3	Principles of Economics... See statement	Soph., jr., sr.	None
8a	3	Economic Problems ..... 9 TThS 1 MWF	Soph., jr. 213MA 102MA	3 or 7 Blakey Blakey
9a	3	Indust. Hist. Since 1750... 10 MWF	Soph., jr., sr. 102MA	None Gray
9b	3	Indust. Hist. Since 1750... 10:45 MWF	Soph., jr., sr. Ag. Col.	None Gray
*101	3	Statistics ..... 11 TThS	Jr., sr., grad. 303MA	6 credits inc. 3 or 7 Durand
*103	3	Distribution of Wealth .... 10 TThS	Jr., sr. 213MA	3 or 7 Paton
*104	3	Hist. of Economic Ideas... 10 TThS	Jr., sr., grad. 213MA	3 or 7
*105-106	None	Economic Conference .... See statement	Sr., grad.	Accompanies seminars

*Production, Transportation, and Commerce*

2b	3	Industries and Commerce of the United States ..... 11 MWF	Soph., jr., sr. 209MA	None McFall
		Sections for Vocational Students ..... Lect. (All) 9 W Quiz (Sec. 1) 9 MF Quiz (Sec. 2) Ar Ar Quiz (Sec. 3) Ar Ar Quiz (Sec. 4) Ar Ar Quiz (Sec. 5) Ar Ar	Fr. Ar Ar Ar Ar Ar	None McFall McFall James James McFall
13	3	Economic Geography of Foreign Countries ..... 2 MWF	Soph., jr., sr. 202MA	3 credits McFall
72	3	Economics of Civilization... See statement	Jr., sr.	6 credits, inc. 3 or 7
76	3	Commercial Policies ..... 10 TThS	Jr., sr. 209MA	6 credits, inc. 3 or 7 Blakey
*173	3	Railway Problems ..... 9 TThS	Jr., sr., grad. 202MA	6 credits inc. 3 or 7 McFall
*174	3	Railway Rate Regulation... 9 TThS	Jr., sr., grad. 213MA	173 McFall

*Business Administration*

34	3	Business Management .... 10 TThS	Soph., jr., sr. 202MA	3 or 7 Harper
35-36	6	Accounting Principles .... Sec. 3 Lect. & Quiz 10 WF Sec. 1 Lect. & Quiz 11 TS Sec. 1 Lab. 11 & 12 Th Sec. 4 Lab. 1 & 2 Th Sec. 2 Lect. & Quiz. 2 MF Sec. 2 Lab. 2 & 3 W Sec. 3 Lab. 1 & 2 T Sec. 4 Lect. & Quiz Ar Ar	Soph., jr., sr. 301MA 301MA 301MA 301MA 301MA 301MA 301MA 301MA Ar.	None Harper Harper Harper Paton Harper Harper Harper Paton
37	3	Marketing of Products.... 9 TThS	Soph., jr., sr. 209MA	3 or 7 James

39	3	Advertising, Salesmanship, and Commercial Credit...	Soph., jr., sr.	3 or 7
		1 MWF	202MA	James
88	3	Retail Merchandising .....	Jr., sr.	6 cred., inc. 37 or 39
		9 TThS	202MA	James
*131	3	Cost Accounting .....	Jr., sr., grad.	3 or 7 and 35-36
		10 TThS	301MA	Harper
*132	3	Accounting Problems .....	Jr., sr., grad.	3 or 7 and 35-36
		See statement		
*133	3	Accounting Systems .....	Sr., grad.	35-36 and 131 or 132
		See statement		
*134	3	Auditing .....	Sr., grad.	35-36 and 131 or 132
		See statement		
*139	3	Bank Administration .....	Jr., sr., grad.	3 or 7 and 43, and consent of instructor
		2 and 3 TTh	202MA	Ebersole
				<i>Finance</i>
41	3	Financial History .....	Soph., jr., sr.	3 or 7
		10 TThS	109MA	Blakey
43a	3	Banking .....	Soph., jr., sr.	3 or 7
		11 MWF	202MA	Ebersole
43b	3	Banking .....	Soph., jr., sr.	3 or 7
		9 MWF	109MA	Ebersole
46	3	Personal Insurance .....	Jr., sr.	3 or 7
		10 TThS	109MA	James
47	3	Property Insurance .....	Jr., sr.	3 or 7
		10 TThS	209MA	James
*142	3	Investment & Speculation..	Jr., sr., grad.	6 credits inc. 3 or 7
		11 MWF	202MA	Ebersole
*143	3	Money and Prices.....	Jr., sr., grad.	3 or 7, and 41 or 43
		10 MWF	202MA	Ebersole
*144	3	Commercial Crises .....	Jr., sr., grad.	3 or 7, or 43 or 143
		10 MWF	209MA	Ebersole
*145	3	The Modern Business Corp.	Jr., sr., grad.	6 credits inc. 3 ,or 7
		9 MWF	102MA	Gray
*146	3	Public Utilities .....	Jr., sr., grad.	145
		9 MWF	102MA	Gray
*191	3	Public Finance .....	Jr., sr., grad.	6 credits inc. 3 or 7
		11 TThS	109MA	Blakey
*192	3	State and Local Taxation..	Jr., sr., grad.	191
		11 TThS	109MA	Blakey
				<i>Economic Reforms</i>
*161	3	Labor Problems .....	Jr., sr., grad.	6 credits inc. 3 or 7
		11 MWF	213MA	Crosgrave
*163	3	Econ. Conditions in Cities.	Jr., sr., grad.	6 credits inc. 3 or 7
		See statement		
*164	3	Econ. Functions of State..	Jr., sr., grad.	6 credits inc. 3 or 7
		11 TThS	209MA	Crosgrave
*165	3	Hist. & Theory of Socialism	Jr., sr., grad.	6 credits inc. 3 or 7
		11 TThS	213MA	Crosgrave
*166	3	Trade Unionism and Allied Problems .....	Jr., sr., grad.	6 credits inc. 3 or 7
		11 MWF	213MA	Crosgrave
*168	3	Wages .....	Jr., sr., grad.	164 or 166 and con-
		See statement		sent of instructor

All of the above courses receive credit in the College of Education. For description see College of Science, Literature, and the Arts bulletin, pages 55-59.

## ENGLISH

Professors RICHARD BURTON, HARDIN CRAIG, FREDERICK KLAEBER, ELMER E. STOLL\*, CARLETON BROWN; Associate Professor OSCAR W. FIRKINS; Assistant Professors JOSEPH W. BEACH, GEORGE N. NORTHRUP.

## REQUIREMENTS OF THE DEPARTMENT

*For a Minor*, twelve credits, including Course 1-2.

*For a Major*, twenty-four credits, including Course 1-2, 3, 5, 8, 55.

*For B.A. with Honors*, the general requirements (page 15), a major in English, a reading knowledge of French, German, Italian, Greek, or Latin, and a final year's work in seminar for which a sequence shall have been specially arranged.

*For a Teacher's Certificate*, (a) English as the major subject of teaching: Rhetoric 1-2, either 11-12 or 15-16, and 41-42; English 1-2, and six additional hours, at least three hours of which shall be in courses numbered above 100. (b) English as the minor subject of teaching: Rhetoric 1-2, and either 11-12 or 15-16; English 1-2, and at least three additional hours.

## COURSES

No.	Credit	Title	Offered to	Prereq. courses
1-2	6	General Survey of Eng. Lit...	Soph., jr., sr.	Rhet. 1-2
	11	MWF	204F	¶
	11	MWF	124F	¶
	11	MWF	125F	¶
	11	MWF	205F	¶
	3	MWF	301F	¶
	3	MWF	204F	¶
	3	MWF	110F	¶
	3	MWF	205F	¶
3	3	Old English .....	Soph., jr., sr.	None
	9	TThS	205F	Klaebel
	10	TThS	204F	Firkins
4	3	Adv. Old English .....	Soph., jr., sr.	3
	9	TThS	205F	Klaebel
5a	3	Chaucer .....	Soph., jr., sr.	1-2
	2	MWF	204F	Brown
5b	3	Chaucer .....	Soph., jr., sr.	1-2
	10	TThS	204F	Firkins
6	3	Spenser .....	Soph., jr., sr.	1-2
	2	MWF	110F	Firkins
8	1	Hist. of English Language....	Jr., sr.	3
	3	T	206F	Klaebel
55a	3	Shakespeare .....	Jr., sr.	1-2
	10	MWF	204F	Northrop
55b	3	Shakespeare .....	Jr., sr.	1-2
	9	TThS	204F	Brown
59	3	Modern Drama .....	Sr.	1-2, 55
	11	MWF	301F	Burton
60	3	Adv. Modern Drama.....	Sr.	1-2, 55, 59
	11	MWF	301F	Burton
62	3	Milton .....	Jr., sr.	1-2
		See statement		

\* Absent on leave, 1916-17.

63	3	19th Century Literature.....	Jr., sr.	1-2
		See statement		
66	3	Browning-Tennyson .....	Jr., sr.	1-2
	10	MWF	301F	Burton
67	3	English Novel .....	Jr., sr.	1-2
	10	MWF	301F	Burton
75	2	Recent English Poetry .....	Jr., sr.	See statement
		See statement		
80a	3*	Teachers' Course .....	Jr., sr.	See statement
	3-4:30	WF	113Ed	Inglis
80b	3*	Teachers' Course .....	Jr., sr.	See statement
	3-4:30	WF	113Ed	Inglis
101	2	Middle English .....	Jr., sr., grad.	1-2 & 3 or 3 & 4
	3	TTh	205F	Klaeber
103	2	Piers the Plowman.....	Jr., sr., grad.	1-2 & 3 or 3 & 4
		See statement		
105	3	18th Century Poetry.....	Jr., sr., grad.	1-2
	9	MWF	204F	Craig
107	3	18th Century Prose.....	Jr., sr., grad.	1-2
		See statement		
108	3	Romantic Movement .....	Jr., sr., grad.	1-2
	9	MWF	204F	Craig
109-110	6	English Humorists .....	Jr., sr., grad.	1-2
		See statement		
111	3	17th Century Prose.....	Jr., sr., grad.	1-2
		See statement		
112	3	17th Century Prose.....	Jr., sr., grad.	1-2
	10	MWF	204F	Northrop
113-114	6	Drama .....	Sr., grad.	12 credits
	3	MWF	206F	Firkins
115	2	English Idiom .....	Jr., sr., grad.	1-2, 3
	11	TTh	301F	Burton
118	2	Bible as Literature.....	Jr., sr., grad.	1-2
		See statement		
119-120	6†	Principles of Lit. Criticism...	Jr., sr., grad.	1-2
	11	TThS	204F	Firkins
122	3	American Literature .....	Jr., sr., grad.	1-2
		See statement		
123-124	4	Seminar in Novelists.....	Sr., grad.	See statement
	2-3	T	110F	Beach
125-126	4	Biography .....	Sr., grad.	See statement
	4-5	T	110F	Northrop
128	3	17th Century Drama.....	Jr., sr., grad.	55 or 131
		See statement		
131	3	Elizabethan Drama .....	Jr., sr., grad.	55
		See statement		
133	2	English and Scottish Popular Ballads .....	Jr., sr., grad.	1-2
	9	TTh	204F	Brown
136	3	Adv. Shakespeare .....	Jr., sr., grad.	55a or 55b
	11	TTh	301F	Burton
138	2	History of Criticism.....	Jr., sr., grad.	12 hours
		See statement		
140	2	Advanced Chaucer .....	Jr., sr., grad.	1-2, 5a or 5b
	2	MW	204F	Brown

\* Carries credit only in the Department of Education.

† Both semesters must be completed before credit is given for the first semester.

140	2	Historical Grammar of English	Jr., sr., grad.	1-2 and 3
	2	TTh	205F	Klaeber
142	2	Adv. Hist. Grammar of English	Jr., sr., grad.	1-2, 3, 141
	2	TTh	205F	Klaeber

80a. TEACHERS' COURSE. Methods of teaching English in high schools. Course of study, textbooks, and equipment; visits to Minneapolis and St. Paul high schools; theme-correcting. Open to juniors, seniors, and graduates qualifying for Practice Teaching. Credit only in Education. INGLIS.

All of the above courses receive credit in the College of Education. For description see College of Science, Literature, and the Arts bulletin, pages 63-68.

## GEOLOGY AND MINERALOGY

Professor WILLIAM H. EMMONS; Associate Professor CLINTON R. STAUFFER; Assistant Professors FRANK F. GROUT, CHESSLEY J. POSEY; Instructors THOMAS M. BRODERICK, A. WALTER JOHNSTON, TERENCE T. QUIRKE; in the General Extension Division, Assistant Professor EDWARD M. LEHNERTS.

### REQUIREMENTS OF THE DEPARTMENT

*For a Minor*, twelve credits.

*For a Major*, twenty-four credits. It is strongly recommended that a field course be included when this is practicable.

*For B.A. with Honors*, Courses 11, 29, 105, 111, 124, and a field course: and twelve credits selected from the following courses:

- 57, 58, 108, 109 in Paleontology
- 106, 131, 132, 140 in Petrology
- 112, 124, 137, 140, 144 in Economic Geology
- 106, 112, 124 in Structural Geology
- 36, 39, 116, 118 in Geography

*For a Teacher's Certificate*, requirements the same as for a major, with an average of at least one and one-half honor points for each credit hour.

### COURSES

No.	Credit	Title	Offered to	Prereq. courses
1	3 <sup>1</sup>	General Geology .....	Soph., jr., sr.	None
	8	MWF	105P	Johnston
	10	TThS	110P	Emmons
	11	MWF	110P	Johnston
	3	MWF	110P	Johnston
3	1	Gen. Geology Laboratory...	Soph., jr., sr.	Supports 1
		Ar Ar	112P	Johnston
4	3	Geology of Minnesota.....	Soph., jr., sr.	Course 1
	11	MWF	110P	Johnston
5	3	Economic Geology .....	Jr., sr.	1 and 6
	9	MWF	104P	Quirke

6	3†	Historical Geology .....	Soph., jr., sr.	Course 1
	10-	TThS	110P	Emmons
	11	TThS	105P	Quirke
	3	MWF	105P	Quirke
8	1	Hist. Geology Laboratory...	Soph., jr., sr.	Supports 4 and 6
	Ar	Ar	112P	
10	3	Elements of Paleontology...	Soph., jr., sr.	Course 1
	10	MWF	104P	Stauffer
11	3	Paleontology .....	Jr., sr.	Course 6
	Lect. 9	M	104P	Stauffer
	Lab. 2-4	WF	104P	Stauffer
14	3	Applied Geol. for Civil Eng.	Soph., jr., sr.	Course 1
	8	TThS	110P	Quirke
15a or 15b	1	Minerals and Rocks .....	Jr., sr.	1
	Ar	Ar	112P	Grout
21	3	Elements of Mineralogy....	Soph., jr., sr.	See statement
	Lec. 11	TThS	110P	Broderick
	Lab. 8	TThS	100P	Broderick
	Lab. 10	TThS	100P	Broderick
	Lab. 2-5	W	100P	Broderick
22	3	Descriptive Mineralogy ....	Soph., jr., sr.	21
	Lect. 11	TThS	110P	Broderick
	Lab. 10	TThS	100P	Broderick
27a or 27b	1	Outlines of Mineralogy.....	Jr., sr.	None
	Ar	Ar	100P	Grout
29	3	General Physiography .....	Soph., jr., sr.	None
	10	TThS	105P	Posey
34	3	Meteorology .....	Soph., jr., sr.	None
	8	TThS	105P	Posey
35	1	Laboratory Work .....	Soph., jr., sr.	See statement
	Ar	Ar	Ar.P	Posey
36	3	Geog. of North America...	Soph., jr., sr.	1 or 29
	10	TThS	105P	Posey
37	3	Phys. & Com. Geography...	Freshmen	None
	9	MWF	110P	Posey
39	3	Geographic Influences .....	Soph., jr., sr.	See statement
	10	MWF	105P	Posey
*55	2	Teachers' Course in Geog..	Jr., sr., grad.	See statement
	8	ThS	105P	Posey
*57	3	Paleontology .....	Jr., sr.	6
	9-11	TThS	104P	Stauffer
*58	3	Paleontology .....	Jr., sr.	57
	9-11	TThS	104P	Stauffer
*61	3	Physical Mineralogy .....	Jr., sr.	22
	Ar	Ar	Ar.P	Grout
*65	3	Morphology of Minerals ...	Jr., sr.	22
	Ar	Ar	Ar.P	Grout
*105	3	Elements of Rock Study...	Jr., sr., grad.	See statement
	2-4	TTh	112P	Grout
*106	3	Petrology .....	Jr., sr., grad.	105
	2-4	TTh	112P	Grout
*108	3	Paleontologic Practice .....	Jr., sr., grad.	58
	2-4	MWF	107P	Stauffer
*109	3	Advanced Paleontology ....	Jr., sr., grad.	58
	8-10	MWF	107P	Stauffer
*110	3	Advanced Paleontology ....	Jr., sr., grad.	109
	8-10	MWF	107P	Stauffer

† Geology 1 and 6 constitute a year's course; both semesters must be completed before credit is given for the first semester.

*111	4	Ore Deposits .....	Sr., grad.	6, 22, 105
		8 TWThF	110P	Emmons
*112	4	Problems in Ore Deposits..	Sr., grad.	111
		2-6 W	104P	Emmons
*116	3	Geog. of Latin America....	Jr., sr., grad.	1, 29 or 31-32 & 3
		9 MWF	105P	Posey credits in Geog.
*118	3	Geography of Eurasia .....	Jr., sr., grad.	Same as for 116
		9 MWF	105P	Posey
*124	3	Struct. & Metamorph. Geol.	Sr., grad.	6, 22, 105
		10 TThS	112P	Johnston
*131-*132	6	Advanced Petrology .....	Jr., sr., grad.	106
		9-11 W	112P	Grout
*137	3	Testing Econ. Minerals....	Jr., sr., grad.	6, 22, 105
		Leet. 11 MW	100P	Grout
		Lab. 2-4 W	100P	Grout
*140	3	Applied Petrology .....	Jr., sr., grad.	See statement
		2-4 TTh	112P	Grout
*144	3	Construction of Geol. Maps.	Jr., sr., grad.	1, 6
		Ar Ar	112P	Quirke
*151	3	Advanced General Geology.	Jr., sr., grad.	6
		11 MWF	104P	Stauffer
*152	3	Advanced General Geology.	Jr., sr., grad.	151
		11 MWF	104P	Stauffer
*160	6	Field Geology .....	Jr., sr., grad.	See statement
*188	6	Field Work in Geography..	Jr., sr., grad.	See statement

55. TEACHERS' COURSE IN GEOGRAPHY. A critical study of materials and methods of teaching secondary school geography. The relation of human activities to environment will be emphasized. For teachers of high school geography. Prerequisites: Geology 1 or 29, and 36 or 116 or 118.

All of the above courses receive credit in the College of Education. For description see College of Science, Literature, and the Arts bulletin, pages 68-74.

## GERMAN

Professor CARL SCHLENKER; Assistant Professors OSCAR C. BURKHARD, WALTER R. MYERS; Instructors JAMES DAVIES, LYNWOOD G. DOWNS, J. THEODORE GEISSENDORFER, ARTHUR R. GRAVES, ALFRED E. KOENIG, HAROLD W. SOULE, RICHARD WISCHKAEMPER, EDWIN H. ZEYDEL; Teaching Fellow ARNOLD W. SHUTTER.

### REQUIREMENTS OF THE DEPARTMENT

*For a Minor*, twelve credits, not including Course 1.

*For a Major*, twenty-four credits.

*Teacher's Certificate in German*

*For a Minor* recommendation, a minimum of fourteen credits.<sup>†</sup>  
Required courses are German 29-30, 31-32, and 50-60.

<sup>†</sup> Means a minimum of 14, and a maximum of 20, credits.

For a *Major* recommendation, a minimum of twenty-six credits.‡ Required courses are German 29-30, 31-32, 53-54, 55-56, and 59-60. German 57-58 is strongly recommended.

German 1 and 3 shall not be counted toward either a minor or major recommendation.

To obtain either a minor or major recommendation the student must obtain an average of one and one-half honor points for each credit hour for all German courses taken.

The prerequisites for German 59-60 (Teachers' Course) are to read German 29-30 and 31-32 or German 53-54. This will enable most students to take the Teachers' Course in the junior year. Practice teaching will in that case become a senior subject for nearly all students and enable the College of Education to make a more equal division between the two semesters of students who elect to practice in teaching German.

‡ Means a minimum of 26 and a maximum of 30, credits; for a majority of students. Inferior students and those who come without German will in cases exceed the maximum; but these will be students who should be discouraged from trying for a recommendation.

#### COURSES

No.	Credit	Title	Offered to	Prereq. courses
1a	6	Beginning .....	All	None
		8 MTWThFS	207F	¶
		9 MTWThFS	207F	¶
		10 MTWThFS	207F	¶
		11 MTWThFS	207F	¶
1b	6	Beginning .....	All	None
		11 MTWThFS	209F	¶
3a	6	Intermediate .....	All	1a or 1b
		11 MTWThFS	209F	¶
3b	6	Intermediate .....	All	1a or 1b
		8 MTWThFS	207F	¶
		9 MTWThFS	207F	¶
		10 MTWThFS	207F	¶
		11 MTWThFS	207F	¶
5a-6b	6†	Prose and Poetry .....	Fr., soph.	2 yrs. prep. German
		8 TThS	209F	¶
		9 MWF	212F	¶
		10 MWF	209F	¶
		10 TThS	212F	¶
		11 MWF	109F	¶
		11 TThS	109F	¶
		2 MWF	213F	¶
		3 MWF	209F	¶
5b-6a	6†	Prose and Poetry .....	Fr., soph.	2 yrs. prep. German
		2 MWF	209F	¶
7-8	6†	Drama .....	Fr., soph., jr., sr. 5-6 or 4 yr. prep. Ger.	
		9 TThS	212F	Burkhard
		10 MWF	213F	Schlenker
		11 TThS	212F	Davies
		3 MWF	207F	¶
9-10	6†	Historical Prose .....	Fr., soph., jr., sr. 5-6 or 4 yr. prep. Ger.	
		9 MWF	205F	Geissendoerfer

† Both semesters must be completed before credit is given for either semester.

11-12	6†	Rapid Reading .....	Soph., jr., sr.	3a or 3b
	9	TThS	110F	Koenig
	10	TThS	213F	Graves
	11	MWF	121F	Davies
	2	MWF	209½F	Soule
21-22	6†	Scientific Intermediate .....	Fr., soph.	3a or 3b or 2 years prep. German
	11	TThS	213F	Geissendoerfer
23-24	6†	Scientific Advanced .....	Soph., jr.	5-6 or 21-22
	11	MWF	213F	Wischkaemper
25-26	2†	Elementary Comp. .....	Fr., soph., jr.	See note a below
	9	S	209½F	Zeydel
	10	S	25F	Soule
	2	M	207F	Wischkaemper
27-28	2†	Elementary Conversation ....	Fr., soph., jr.	See note a below
	8	WF	209½F	Soule
	9	TTh	209½F	Zeydel
	10	TTh	5F	Downs
	11	WF	207F	Wischkaemper
29-30	2†	Advanced Conversation .....	Soph., jr., sr.	See note b below
	9	WF	209½F	Koenig
	9	WF	107F	Zeydel
	10	TTh	110F	¶
	10	TTh	25F	Soule
31-32	2†	Intermed. Composition .....	Soph., jr., sr.	See note b below
	9	M	209½F	Koenig
	9	M	107F	Zeydel
	10	S	110F	¶
	10	S	209F	Wischkaemper
51	2	Faust, Part I .....	Soph., jr., sr.	7-8, or 9-10 or 11-12 or 23-24
	11	WF	209½F	Schlenker
52	2	Faust, Part II .....	Soph., jr., sr.	51
	11	WF	209½F	Schlenker
53	3	Survey Through Classic Per.	Soph., jr., sr.	7-8, or 9-10 or 11-12, or 23-24
	9	MWF	209F	Burkhard
	9	TThS	209F	Myers
54	3	Survey Since Classic Per....	Soph., jr., sr.	53
	9	MWF	209F	Burkhard
	9	TThS	209F	Myers
55-56	2†	Advanced Composition .....	Jr., sr.	31-32
	3	M	209½F	Myers
57-58	2†	Oral Dictio .....	Jr., sr.	See statement
	3	WF	209½F	Koenig
59-60	2†	Teacher's Course .....	Jr., sr.	29-30 & 31-32 or 53-54
	4	F	209F	Schlenker
61	2	Romantic School .....	Jr., sr.	7-8 or 9-10 or 11-12, or 23-24
	11	TTh	209½F	Schlenker
62	2	Drama of Last 30 Years....	Jr., sr.	2 cr. in starred courses
	11	TTh	209½F	Schlenker
63	2	Schiller Poetry .....	Jr., sr.	7-8 or 9-10 or 11-12, or 23-24
	10	TTh	209F	Wischkaemper
64	2	Goethe Poetry .....	Jr., sr.	7-8 or 9-10 or 11-12, or 23-24
	10	TTh	209F	Wischkaemper

107-108	4†	Middle High German .....	Jr., sr., grad.	4 cr. in starred courses
		4 MW	209F	¶
109-110	4†	Hist. of German Lang. ....	Jr., sr., grad.	4 cr. in starred courses
		See statement		
119-120	4†	Drama of Schiller.....	Sr., grad.	4 cr. in starred courses
		2-4 Th	209F	Myers
127-128	4†	18th and 19th Cent. Lyric..	Sr., grad.	4 cr. in starred courses
		2-4 M		Davies
129-130	4†	Der Deutsche Roman .....	Sr., grad.	4 cr. in starred courses
		See statement		
131-132	4†	Die Novelle .....	Sr., grad.	4 cr. in starred courses
		2-4 W	212F	Burkhard
133-134	4†	English Influences .....	Sr., grad.	4 cr. in starred courses
		See statement		
137-138	4†	Grillparzer .....	Sr., grad.	4 cr. in starred courses
		4-6 F	206F	Geissendoerfer
143-144	4†	Heine .....	Sr., grad.	4 cr. in starred courses
		4 TTh	209F	Graves
225-226	4†	Literary Problems .....		Honors & grads.
		See statement		
231-232	4†	Faust Seminar .....		Honors & grads.
		2-4 T	209F	Schlenker

a. Only students who are taking or who have taken Course 5-6 or Course 21-22 may elect the supplementary Courses 25-26 and 27-28, either one or both together. But students electing Course 11-12 may take Course 25-26. No credit will be granted to students who are taking or have taken a course numbered above 50.

b. Only students who are taking or who have taken Course 7-8 or Courses 9-10 or Course 11-12 or Course 23-24 may elect the supplementary courses 29-30 and 31-32, either one or both together. Students electing Course 11-12 should take Course 31-32 only after consultation with the instructor in charge.

c. Credit will be granted for either Course 5-6 or Course 21-22 but not for both.

d. Credit for only one of the following courses will be granted: Courses 7-8, 9-10, 11-12, 23-24.

59-60. TEACHERS' COURSE. Lectures, readings, and reports; observation of classes. SCHLENKER.

All of the above courses receive credit in the College of Education. For description see College of Science, Literature, and the Arts bulletin, pages 74-80.

## GREEK

Professors JOHN CORRIN HUTCHINSON, CHARLES ALBERT SAVAGE.

### REQUIREMENTS OF THE DEPARTMENT

*For a Minor*, twelve credits.

*For a Major*, twenty-four credits (exclusive of Courses 59 to 64 inclusive).

### COURSES

No.	Credit	Title	Offered to	Prereq. courses
1-2	10	First Year Greek.....	Fr., soph., jr., sr.	None
		9 TWThFS	115F	¶
		11 TWThFS	114F	¶
3-4	6	Anabasis-Iliad .....	Fr., soph., jr., sr.	1-2
		10 MWF	114F	Savage

7	3	Dramatic Poetry .....	Soph., jr., sr.	3-4
		9 TThS	114F	Savage
51	3	Philosophy .....	Jr., sr.	3-4
		10 TThS	113F	Hutchinson
52	3	Oratory .....	Jr., sr.	3-4
		10 TThS	114F	Savage
53-54	2	Composition .....	Sr.	51-52
		3 F	113F	Hutchinson
101	3	Lyric Poetry .....	Sr., grad.	51 or 52
		10 MWF	113F	Hutchinson
102	3	Tragedy .....	Sr., grad.	7 or 101
		9 MWF	114F	Savage
103	3	Septuagint .....	Sr., grad.	51
		11 MWF	113F	Hutchinson
104	3	New Testament .....	Sr., grad.	51
		11 MWF	113F	Hutchinson
<i>Courses Open to All—No Knowledge of Greek Required</i>				
59	1	Greek Architecture .....	Jr., sr.	None
		3 W	114F	Hutchinson
60	1	Sculpture .....	Jr., sr.	None
		3 W	114F	Hutchinson
61	2	Drama .....	Jr., sr.	None
		2 TTh	114F	Savage
62	2	Literature and Life .....	Jr., sr.	None
		2 TTh	114F	Savage
63-64	1	Mythology .....	Jr., sr.	None
		3 Th	114F	Savage

All of the above courses receive credit in the College of Education. For description see College of Science, Literature, and the Arts bulletin, pages 80-81.

## HISTORY

Professors GUY STANTON FORD, CARL LOTUS BECKER, WILLIAM STEARNS DAVIS, ALBERT BEEBE WHITE; Associate Professor WALLACE NOTE-STEIN; Assistant Professors SOLON JUSTUS BUCK, AUGUST CHARLES KREY; Instructor WAYNE E. STEVENS; Teaching Fellows CHARLES BYRON KUHLMANN, RUTH ELIZABETH MARSHALL.

### REQUIREMENTS OF THE DEPARTMENT

*For a Minor*, twelve credits.

*For a Major*, twenty-four credits.

*For B.A. with Honors*, see general statement (page 15).

*For a Teacher's Certificate*, eighteen credits in History, including at least three credits in intensive courses. In addition the student must take History 54.

The Departments of History, Economics, Political Science, Sociology, and Anthropology constitute a social science group. The subjects are closely inter-related, and are of especial importance to students who intend to engage in law, business, public service at home or abroad, journalism, and the work of charities and corrections, or to give instruction in one of the social sciences. Students who are interested in any one of the departments of the social science group ought to be familiar with at least the elements of the subjects offered in the other departments. A student

who takes his major in any one of them ought to have more than the elements of the others.

## COURSES

No.	Credit	Title	Offered to	Prereq. courses
1-2	6	Med. and Modern Europe...	All	None
	1 (Lect.)	W	30Ph	Ford, Krey
	8 (Rec.)	TS	111Lib	
	9 (Rec.)	MW	3F	
	9 (Rec.)	TS	111Lib	
	10 (Rec.)	MW	3F	
	11 (Rec.)	MF	5F	
	11 (Rec.)	TS	111Lib	
	3 (Rec.)	MF	111Lib	
2a-1b	6	Med. and Modern Europe...	All	None
	10	TThS	301F	
3-4	6	English to 1783 .....	All	None
	1 (Lect.)	M	301F	White
	1 (Lect.)	M	308F	Notestein
	9	WF	112Lib	
	9	TTh	112Lib	
	10	WF	112Lib	
	10	TTh	112Lib	
	11	WF	112Lib	
	11	TTh	112Lib	
	2	WF	112Lib	
	3	WF	112Lib	
5-6	6	American History .....	Soph., jr., sr.	6 credits
	10 (Lect.)	M	110F	Becker, Buck
	10	WF	111L	
	10	ThS	15F	
	11	WF	3F	
7	3	English History, 1750-1916..	Soph., jr., sr.	6 credits
	2	MWF	25F	Notestein
9	3	National Movements .....	Soph., jr., sr.	6 credits
	11	MWF	111Lib	Ford
10	3	Europe in 19th Century ....	Soph., jr., sr.	6 credits
	See statement			
13	3	Medieval Civilization .....	Soph., jr., sr.	6 credits
	See statement			
14	3	Renaissance and Reform. ...	Soph., jr., sr.	6 credits
	11	MWF	25F	Krey
*21	3	Topics in Greek History....	Jr., sr.	9 credits
	See statement			
*23	3	Topics in Roman History...	Jr., sr.	9 credits
	See statement			
*56-57	3	Teachers' Course .....	Jr., sr.	See statement
	4	MW	111Lib	Krey
*101	3	French Revolution .....	Jr., sr., grad.	9 credits
	2-330	TTh	111Lib	Becker
*104	3	The Near East .....	Jr., sr., grad.	9 credits
	10	TThS	111Lib	Davis
*121-122	6	History of Greece.....	Jr., sr., grad.	See statement
	See statement			
*123-124	6	History of Rome.....	Jr., sr., grad.	See statement
	3	MWF	25F	Davis
*125	3	History of Old Orient.....	Jr., sr., grad.	9 credits
	10	TThS	111Lib	Davis

*133-134	6	Ancient Civilization .....	Jr., sr., grad.	See statement
		11 TThs	3F	Davis
*136	3	Outlines of Prussian History.	Jr., sr., grad.	9 credits
		11 MWF	111Lib	Ford
*137	3	English Constitutional Hist...	Jr., sr., grad.	9 credits (inc. 3-4)
		4-5:30 TTh	218Lib	White
*141	3	West in American History..	Jr., sr., grad.	9 credits (inc. 5-6)
		3 MWF	218Lib	Buck
*144	3	History of Minnesota .....	Jr., sr., grad.	9 credits (inc. 5-6)
		3 MWF	219Lib	Buck
*154	3	American Revolution .....	Sr., grad.	12 credits (inc. 5-6)
		2-3:30 TTh	218Lib	Becker
*162	3	Beginnings of Parliament...	Jr., sr., grad.	See statement
		4-5:30 TTh	218Lib	White
*163	3	English Judicial System .....	Jr., sr., grad.	See statement
		See statement		
*171-172	6	German History .....	Sr., grad.	See statement
		See statement		
*181	3	English Backgrounds of American History .....	Sr., grad.	12 credits (inc. 3-4)
		4-5:30 WF	218Lib	Notestein
*182	3	English Colonization .....	Sr., grad.	12 cr. (inc. 5-6) or 181
		4-5:30 WF	218Lib	Notestein
*184	3	Stuart Period .....	Sr., grad.	See statement
		See statement		
*191	3	Age of the Crusades .....	Sr., grad.	See statement
		1:30-3 TTh	218Lib	Krey

56-57. THE TEACHING OF HISTORY AND GOVERNMENT. Open only to students who have eighteen credits in History, including a starred course. Deals chiefly with the practical problems of teaching history and government in the secondary schools. Students planning to teach government must have nine credits in Political Science. KREY, et al.

All of the above courses receive credit in the College of Education. For description see College of Science, Literature, and the Arts bulletin, pages 81-86.

## HUMAN PHYSIOLOGY

Professor ELIAS P. LYON; Associate Professors RICHARD OLDRING BEARD, FREDERICK H. SCOTT; Assistant Professors JOHN E. McCLENDON, M. RUSSELL WILCOX; Instructors FRANCIS B. KINGSBURY, CHAUNCEY J. V. PETTIBONE; Assistants EDWARD D. ANDERSON, ALBERT M. SNELL, FRED S. RICHARDSON.

### REQUIREMENTS OF THE DEPARTMENT

*For a Minor*, twelve credits, which may include Animal Biology, 1-2.

*For a Major*, Animal Biology 1-2 and eighteen credits, including Physiology 102, 103, and 104. In these eighteen credits may be included Anatomy 101 and Animal Biology 15-16.

### COURSES

No.	Credit	Title	Offered to	Prereq. courses
1-2	2 or 4	Physiology and Hygiene....	All	None

3a or 3b	3*	Elem. Human Physiology...	Soph., jr., sr.	1 yr. Chem., $\frac{1}{2}$ yr. Biol.
		1:30-3:30 T	214MH	Beard or Lyon, et al.
		1:30-5:00 Th		
4	4*	Elementary Physiology .....	Jr., sr.	Elem. Chem. & Biol. or Anatomy
		8-10 T	214, 301MH	Beard, et al.
		8-12 Th		
		8-9 S		
5	3*	Elementary Physiology .....	Jr., sr.	Elem. Chem. & Biol. or Anatomy
		9-11 T	214, 301MH	Lyon, et al.
		9-12 Th		
6	3*	Elem. Physiol. Chemistry ..	Soph., jr., sr.	Elem. Chem. & Biol. or Anatomy
		10-12 T	214, 310MH	Pettibone, et al.
		9-12 S		
7	2*	Elem. Physiol. Chemistry...	Soph., jr., sr.	Elem. Chem. & Biol. or Anatomy
		11-12 T	214, 310MH	Pettibone, et al. *
		9-12 S		
102	5	Physiologic Chemistry .....	Jr., sr., grad.	Organ. Chem.
		8-11 MW	214, 310MH	Pettibone, et al.
		8-12 F		
103	4	Physiology, Muscle, etc. ....	Jr., sr., grad.	An. Biol. 1-2
		1-3:00 M	214, 310MH	Scott, et al.
		1-4:30 W		
		1-3:30 F		
104	4	Physiol., Nervous System, etc.	Jr., sr., grad.	An. Biol. 1-2
		1-3:00 M	214, 310MH	Lyon, et al.
		1-4:30 W		
		1-3:30 F		
151-152	6	Physiologic Chemistry .....	Jr., sr., grad.	Organ. Chem.
		1-4 TTh	305, 310MH	Kingsbury, et al.

\* Students may not receive credit for any two of Courses 3, 4, and 5; or for both 6 and 7.

**I-2. HUMAN PHYSIOLOGY AND HYGIENE.** A course in the essentials of human physiology and hygiene, planned to afford teachers an adequate knowledge of the human subject whom they are engaged in teaching. Offered to public school teachers and others. BEARD and Assistants.

All of the above courses receive credit in the College of Education. For description see College of Science, Literature, and the Arts bulletin, pages 89-92.

## LATIN

Professors JOSEPH B. PIKE, JOHN E. GRANRUD.

### REQUIREMENTS OF THE DEPARTMENT

*For a Major*, eighteen credits for those entering with four years of Latin; twenty-four credits for all others.

*For a Minor Teacher's Recommendation*, Courses 5-6, 57, 58, and 101; *for a Major Teacher's Recommendation*, these same courses with the ad-

dition of Course 102, with an average of at least one and one-half honor points per credit hour.

*For B.A. with Honors.* The general requirements (page 15), and a fair reading knowledge of German or French or Greek. Six credits in Latin a semester during the junior and senior years are to be selected from Courses 57 to 204. (Students who do not desire a recommendation for teaching Latin may, by selecting courses that are given in alternate years, secure enough work for the honors course without being obliged to take Courses 101 and 102.) Instead of taking all the work indicated above in Latin, the student may substitute six credits in Greek (third-year Greek or above), or six credits in Greek or Roman History, or six credits in ancient Philosophy.

#### COURSES

No.	Credit	Title	Offered to	Prereq. courses
1	3	Selections from Latin Authors.	All	2 or 3 yrs. Latin
	9	TThS	107F	¶
2	3	Selections from Latin Authors.	All	2 or 3 yrs. Latin
	9	TThS	107F	¶
5	3	Livy .....	All	Courses 1 & 2 or 4 years Latin
	10	TThS	107F	¶
6	3	Plautus and Terence .....	All	Courses 1 & 2 or 4 years Latin
	10	TThS	109F	¶
57	3	Horace .....	Soph., jr., sr.	6
	9	MWF	109F	Pike
58	3	Pliny .....	Soph., jr., sr.	57
	9	MWF	109F	Pike
101	3	Advanced Caesar .....	Jr., sr.	58
	9	TThS	109F	Pike
102	3	Advanced Vergil .....	Jr., sr.	101
	9	TThS	109F	Pike
104	2	Latin Writing .....	Jr., sr.	58
	See statement			Pike
105	3	Roman Elegy .....	Jr., sr., grad.	58
	See statement			Granrud
106	3	Roman Novel .....	Jr., sr., grad.	58
	10	MWF	109F	Pike
107	3	Letters of Cicero .....	Jr., sr., grad.	58
	11	MWF	107F	Granrud
108	3	Tacitus .....	Jr., sr., grad.	58
	See statement			Granrud
110	3	Roman Satire .....	Jr., sr., grad.	58
	11	MWF	107F	Granrud
9	1	Roman Architecture .....	Jr., sr.	None
	11	S	107F	Granrud
10	1	Roman Art .....	Jr., sr.	None
	11	S	107F	Granrud
201-202	3	Lucretius .....	Grad. & honor stu.	Consult department
	See statement			Pike
203-204	3	Seneca .....	Grad. & honor stu.	Consult department
	3 and 5	T	109F	Pike
205-206	3	Cicero .....	Grad. & honor stu.	Consult department
	3 and 5	Th	107F	Granrud

101. ADVANCED COURSE IN CAESAR. Teachers' Course. Selections from books five to seven of the Gallic War; the principles of indirect discourse; intermediate Latin composition; class drill and discussion of various problems connected with secondary school work in Latin.  
PIKE.

All of the above courses receive credit in the College of Education. For description see College of Science, Literature, and the Arts bulletin, pages 92-95.

## MATHEMATICS

Professor GEORGE N. BAUER, FRANCIS P. LEAVENWORTH; Associate Professor WILLIAM H. BUSSEY; Assistant Professors ROYAL R. SHUMWAY, HERMON L. SLOBIN, ANTHONY L. UNDERHILL, WILLIAM D. REEVE; Instructors RALPH M. BARTON, CLARENCE McCORMICK; Assistants CARL HOLZINGER, VERA WRIGHT.

### REQUIREMENTS OF THE DEPARTMENT

*For a Minor*, twelve or sixteen credits according as the freshman course taken is three or five hours a week.

*For a Major*, twenty-four credits.

*For B.A. with Honors*, the general requirements (page 15). In junior and senior years any courses above 50 may be presented, except Course 54. Astronomy 101-102, Physics 121-122, and, with the consent of the major department, other courses open only to juniors and seniors may be presented.

*For a Teacher's Certificate*, an average of at least one and one-half honor points per credit hour through Course 51; Course 54; and an average of at least one honor point per credit hour in all other courses taken in the department. Course 6 must be included if not offered for admission.

### COURSES

No.	Credit	Title	Offered to	Prereq. courses
1a	5	Higher Algebra, Part I .....	Fr., soph.	Elem. Algebra
	8	TWThFS	125F	¶
	9	TWThFS	125F	¶
	11	TWThFS	104F	¶
	2	MTWThF	104F	¶
1b	5	Higher Algebra, Part I .....	Fr., soph.	Elem. Algebra
	8	TWThFS	105F	¶
2a	5	Algebra and Plane Trigonometry.	Fr., soph.	1 or prep. higher Alg.
	9	TWThFS	104F	¶
	10	TWThFS	105F	¶
2b	5	Algebra and Plane Trigonometry.	Fr., soph.	1 or prep. higher Alg.
	8	TWThFS	125F	¶
	9	TWThFS	125F	¶
	11	TWThFS	104F	¶
	2	MTWThF	104F	¶

3a	3 <sup>c</sup>	Higher Algebra, Part II .....	Fr., soph.	Prep. higher Algebra
	8	TThS	104F	
	10	MWF	104F	
	10	TThS	104F	
	2	MWF	101F	
	3	MWF	102F	
3b	3	Higher Algebra, Part II .....	Fr., soph.	Prep. higher Algebra
	8	MWF	104F	
4a	3	Trigonometry .....	Fr., soph.	3
	8	MWF	104F	
4b	3	Trigonometry .....	Fr., soph.	3
	8	TThS	104F	
	10	MWF	104F	
	10	TThS	104F	
	2	MWF	101F	
	3	MWF	102F	
6	2	Solid Geometry .....	Soph., jr., sr.	1-2 or 3-4 or 2-9 who have not had Solid Geometry
	11	WF	101F	Bussey
7	3	Plane Analyt. Geom. .....	Soph., jr., sr.	2 or 4
	9	TThS	102F	Bussey
	2	MWF	102F	Mikesh
9a	5	Pl. and Sol. Anal. Geometry .....	Soph., jr., sr.	2 or 4
	9	TWThFS	101F	Shumway
9b	5	Pl. and Sol. Anal. Geometry .....	Fr., soph., jr., sr.	2 or 4
	9	TWThFS	104F	
	10	TWThFS	105F	
11a	3	Differential Calculus .....	Soph., jr., sr.	7 or 9
	11	TThS	102F	Underhill, Slobin
11b	3	Differential Calculus .....	Soph., jr., sr.	7 or 9
	9	TThS	102F	Bussey
	2	MWF	102F	Barton
51a	3	Integral Calculus .....	Soph., jr., sr.	11
	11	TThS	101F	Bauer
51b	3	Integral Calculus .....	Soph., jr., sr.	11
	11	TThS	102F	Underhill
54a	2	Teachers' Course .....	Jr., sr.	11
	3	TTh	115Ed	Reeve
54b	2	Teachers' Course .....	Jr., sr.	11
	3	TTh	115Ed	Reeve
62	3	Theory of Equations .....	Jr., sr.	11
	2	MWF	125F	Shumway
71	3	Solid Analytical Geometry .....	Jr., sr.	11
	9	MWF	102F	Bussey
102	3	Adv. Plane Analytical Geometry. (Not offered in 1916-17)	Jr., sr., grad.	11
104	3	Modern Synthetic Geometry .....	Jr., sr., grad.	11
	9	MWF	102F	Bussey
107	3	Adv. Differential Calculus .....	Jr., sr., grad.	51
	11	MWF	102F	Underhill
108	3	Adv. Integral Calculus .....	Jr., sr., grad.	51, 101
	11	TThS	101F	Bauer

Any of the following courses for which a sufficient number of students apply will be given in 1916-17:

106a or 106b	3	Differential Equations ...	Sr., grad.	51
119a or 119b	3	Modern Higher Algebra...	Sr., grad.	51
125-126	6	Differential Geometry ...	Sr., grad.	51

127a or 127b	3	Infinite Series .....	Sr., grad.	17	cred. besides Alg. and Trig.
140	2	Method of Least Squares.	Sr., grad.	51	

54a,b. **TEACHERS' COURSE.** Text and assigned readings. Special attention paid to the fundamental principles of Algebra and Geometry. REEVE.

All of the above courses receive credit in the College of Education. For description see College of Science, Literature, and the Arts bulletin, pages 95-98.

## MUSIC

Professor CARLYLE SCOTT; Assistant Professor DONALD FERGUSON; Special Instructors MAXIMILIAN DICK, THADDEUS GIDDINGS, GERTRUDE REEVES, CLARA WILLIAMS.

### REQUIREMENTS OF THE DEPARTMENT

*For a Minor*, twelve credits, not including Courses 11-12 and 21-22.

*A Major* is offered only to those who take the four-year course in Arts and Music.

For the curriculum of the four-year course in Arts and Music, leading to the degree of Bachelor of Arts in Music, see page 25 of the Science, Literature, and the Arts bulletin. The tabular statement and description of courses given below are for the guidance of other students in the College of Science, Literature, and the Arts who desire to elect Music.

### COURSES

No.	Credit	Title		Offered to	Prereq. courses
1-2	6	Harmony .....		Jr., sr.	None
	10	TThS		Mu	Scott
	11	TThS		Mu	Scott
3-4	4	Counterpoint .....		Jr., sr.	Harmony
	11	TTh		Mu	Ferguson
5-6	4	Composition .....	Ar	Jr., sr.	Ferguson
7-8	2	Analysis .....	Ar	Jr., sr.	Harmony
	12	W		Mu	Scott
9-10	6	History of Music .....		Jr., sr.	None
	9	MWF		Mu	Ferguson
11-12	1	Appreciation of Music .....		Jr., sr.	None
	2	M		Mu	Reeves
13-14	4	Bach-Beethoven .....		Jr., sr.	None
	1, 2	T		Mu	Ferguson
15-16 4or8	Pianoforte .....			Jr., sr.	
17-18	Ar			Mu	Scott, Ferguson, Reeves
19-20 4or8	Violin .....		Ar	Jr., sr.	
			Ar	Mu	Dick
21-22	4	Voice .....		Jr., sr.	
		Ar	Ar	Mu	Williams
27-28	6	Public School Music .....		Jr., sr.	
	4, 5	WF		Ed	Giddings
29-30	4	Normal Piano .....		Jr., sr.	
	3	TF		Mu	Reeves
31-32	2	Ensemble .....		Jr., sr.	
	12	F		Mu	Dick

33-34	Ear Training	.....	Jr., sr.	None
		2	Mu	Reeves
35-36	2	Orchestra	.....	Soph., jr., sr.
		7:30	M	ME Ferguson

27-28. PUBLIC SCHOOL MUSIC. Preparation for teachers and supervisors of music in public, high schools, and normal schools. Piano playing, singing, and ready reading prerequisite. Four hours in class and one half day weekly in public school visiting. Practice teaching demanded. **GIDDINGS.**

All of the above courses receive credit in the College of Education. For description see College of Science, Literature, and the Arts bulletin, pages 99-101.

### PHILOSOPHY AND PSYCHOLOGY

Professors NORMAN WILDE, MELVIN E. HAGGERTY; Associate Professor DAVID F. SWENSON; Assistant Professors HERBERT WOODROW, JOSEPH PETERSON, RUPERT C. LODGE; Instructors HAROLD R. CROSLAND, JOHN F. DASHEILL, JACOB KANTOR.

#### REQUIREMENTS OF THE DEPARTMENT

*For a Minor*, twelve credits.

*For a Major*, twenty-four credits, either in Philosophy or in Psychology. The following courses are classified under Philosophy: 9, 13, 20, 51, 56, 63, 64, 109, 118, 121, 122, 123, 124, 126, 127, 129-130, 135. A major in Philosophy must include Courses 9, 121, and 122, as well as a minimum of three, or a maximum of six, credits in the psychological group. The following courses are classified under Psychology: 1-2, 5, 17, 18, 55, 56, 101, 105, 107, 108, 109, 115-116; a major in Psychology must include Courses 1-2 and 101, as well as a minimum of three, or a maximum of six, credits from the philosophical group.

*For B.A. with Honors*, besides the general requirements (page 15), a major in either Philosophy or Psychology, and twenty-four credits in starred courses.

#### COURSES

##### First Semester

No.	Credit	Title	Offered to	Prereq. courses
1-2	6	General Psychology .....	Soph. jr., sr.	None
		8 MWF	321F	Peterson
		8 TThS	321F	Kantor
		9 MWF	321F	Peterson
		10 MWF	321F	Haggerty
		10 TThS	321F	Dasheill
		11 MWF	321F	Croslan
		11 TThS	321F	Dasheill
		2 MWF	321F	Peterson
		2 MWF	321F	Dasheill
		3 MWF	321F	Kantor
5a	3	Elements of Psychology .....	Soph. jr., sr.	None
		9 MWF	322F	Swenson
		2 MWF	322F	Lodge

9a	3	Logic .....	Soph. jr., sr.	None
	10	TThS		Lodge
	3	MWF	322F	Lodge
13	3	Introduction to Philosophy ... See statement	Soph., jr., sr.	3 credits
17	3	Methods of Study .....	Soph., jr., sr.	Course 5 or 1-2
		See statement		
51a	3	Ethics .....	Jr., sr.	6 credits
	10	MWF	322F	Wilde
	10	TThS	322F	Wilde
55	3	Abnormal Psychology .....	Jr., sr.	6 cred. inc. 5 or 1-2
	8	TThS	321F	Crosland
65	3	Development of Religion.....	Jr., sr.	6 credits
	9	TThS	322F	Swenson
101	3	Exper. Psychology .....	Jr., sr., grad.	1-2
	2, 3	MW	318F	{ Woodrow and
	2, 3	TTh	318F	{ Crosland
101a	3	Exper. Psychology Lect. ....	Jr., sr., grad.	1-2
	4	T	322F	Woodrow
105	3	Mental Retardation .....	Jr., sr., grad.	1-2
	4, 5	Th	316F	Woodrow
107	3	Social Psychology .....	Jr., sr., grad.	6 cred. inc. 5 or 1-2
	9	TThS	311½F	Peterson
109	3	Psychological Principles .....	Jr., sr., grad.	12 cred. inc. Course 9 and 1-2 or 5
	8	MWF	322F	Kantor
115-116	6	Seminar in Psychology .....	Sr., grad.	12 credits
		Ar Ar	316F	Woodrow
121	3	Ancient Philosophy .....	Jr., sr., grad.	6 credits
	11	TThS	322F	Wilde
123	3	Scandinavian Philosophy .....	Sr., grad.	9 credits
	Ar Ar	316F	Swenson	
129-130	6	Seminar in Philosophy .....	Sr., grad.	12 credits
	Ar Ar	316F	Wilde	
135	3	Philosophy of Plato .....	Sr., grad.	Course 121, 122, or 124
	11	MWF	322F	Lodge
127	3	Metaphysics .....	Sr., grad.	12 credits
		See statement		

*Second Semester*

1-2	6	General Psychology .....	Soph., jr., sr.	None
	8	MWF	321F	Peterson
	8	TThS	321F	Kantor
	9	MWF	321F	Peterson
	10	MWF	321F	Haggerty
	10	TThS	321F	Dasheill
	11	MWF	321F	Crosland
	11	TThS	321F	Dasheill
	2	MWF	321F	Peterson
	2	MWF	321F	Dasheill
	3	MWF	321F	Kantor
5b	3	Elements of Psychology.....	Soph., jr., sr.	None
	10	TThS		Lodge
	3	MWF	322F	Lodge
5b	3	Elem. of Psych. (music course)	Soph., jr., sr.	None
	9	TThS	318F	Woodrow
9b	3	Logic .....	Soph., jr., sr.	None
	9	MWF	322F	Swenson
	2	MWF	322F	Lodge

18	3	Child Development .....	Soph., jr., sr.	5 or 1-2
		8 MWF	322F	Dasheill
20	3	Present Day Philosophy .....	Jr., sr.	6 credits
		10 MWF	322F	Wilde
56	3	Esthetics .....	Jr., sr.	6 credits
		8 TThS	322F	Swenson
66	3	Philosophy of Religion .....	Jr., sr.	6 credits
		9 TThS	322F	Swenson
101b	3	Experimental Psychology ....	Jr., sr., grad.	1-2
		2, 3 MW	318F	{ Woodrow and
		2, 3 TTh	318F	{ Crosland
101b	3	Experimental Psychology Lect.	Jr., sr., grad.	1-2
		4 T	322F	Woodrow
108	3	Comparative Psychology .....	Jr., sr., grad.	101
		9 TThS	311½F	Peterson
115-116	6	Seminar in Psychology .....	Sr., grad.	12 cred. in Psych.
		Ar Ar	316F	Woodrow
118	3	Advanced Ethics .....	Jr., sr., grad.	6 credits
		10 TThS	322F	Wilde
122	3	Modern Philosophy .....	Jr., sr., grad.	6 credits
		11 TThS	322F	Wilde
124	3	19th Century Philosophy ....	Sr., grad.	12 cred. in Phil.
		11 MWF	322F	Lodge
126	3	Logic of Science .....	Jr., sr., grad.	9 cred. including 9
		See statement		
129-130	6	Seminar in Philosophy .....	Sr., grad.	12 cred. in Phil.
		Ar Ar	316F	Wilde

All of the above courses receive credit in the College of Education. For description see College of Science, Literature, and the Arts bulletin, pages 101-105.

## PHYSICAL EDUCATION

### FOR MEN

Director LOUIS J. COOKE; Assistant Director WILLIAM K. FOSTER; Instructor JOHN C. WEST; Assistant BOTTOLF M. OHNSTAD.

### GENERAL STATEMENT

The purpose of the department is to provide all men of the University opportunity for exercise in order to maintain and build up their general health. It also provides special training for the correction of physical defects and functional derangements.

A physical examination is required of all new matriculants, and of all others using the department privileges, at the beginning of the year, and as often during their college course as their physical condition may indicate. Students taking the required work in physical education are examined also at the close of the year. A study of these records shows a marked improvement in the standard of health of the average student during his college course.

The gymnasium, swimming pool, and baths are open to all students of the University, who are free to use the apparatus and to pursue a course in physical training under the supervision of the director and his assistants.

Those students, taking the required course in physical education who can not swim, must make a reasonable effort as determined by the department, to pass the swimming and life-saving requirements, and will be assigned special hours for instruction.

## COURSES

No.	Credits	Title	Offered to	Prereq. courses
1	None	Personal Hygiene .....	Fr.	None
	2	MF	201A	Cooke
	3	MF	201A	Cooke
	11	TS	201A	Cooke
	11	WF	201A	Cooke
3-4	None	Gymnasium .....	Fr.	None
	2	MF	100A	Foster-West
	3	MF	100A	Foster-West
	11	TS	100A	Foster-West
	11	WF	100A	Foster-West
5-6		Intermediate Gymnastics ...	Fr.	None
	2	MF	100A	Foster-West
	3	MF	100A	Foster-West
	11	TS	100A	Foster-West
	11	WF	100A	Foster-West
7-8	2†	Advanced Leaders .....	Soph., jr., sr.	1, 3-4, 5-6
	2	MF	100A	Foster-West
	3	MF	100A	Foster-West
	11	TS	100A	Foster-West
	11	WF	100A	Foster-West
9-10	None	Corrective Gymnastics ....	All	None
		Ar Ar	100A	Ohnstad
11-12	None	Wrestling .....	Soph., jr., sr.	None
		5 MWF	106A	Foster-Ohnstad
13-14	None	Advanced Gymnastics .....	Soph., jr., sr.	None
		Ar Ar	Ar	West-Foster
15-16	None	Intermediate Swimming ....	All	None
		Ar Ar		Ohnstad
17-18	None	Advanced Swimming .....	All	15-16
		Ar Ar		Foster-Ohnstad

† Both semesters must be completed before credit is given for the first semester.

All of the above courses receive credit in the College of Education. For description see College of Science, Literature, and the Arts bulletin, pages 105-107.

## PHYSICAL EDUCATION

## FOR WOMEN

Assistant Professor J. ANNA NORRIS; Instructors MAY S. KISSOCK, VALERIA G. LADD, ALICE HOPKINS TOLG.

## INTRODUCTORY STATEMENT

This department aims to promote the health of the women students. It gives physical examination and advice to all on entrance; plans systematically to keep in close touch with them during their first year in college; conducts yearly consultations with, and examines when necessary, all upper class students; gives courses in hygiene; organizes physical

work to meet the varying needs and physical tastes of students; coöperates closely with the Woman's Athletic Association in encouraging and organizing athletic sports; holds regular office hours for the purpose of consultation with all students who desire its advice; and investigates cases of illness which come to its attention.

Work in this department is required of all newly entering students (see Courses 1-2 and 11), and of all students permitted, for reasons connected with their physical condition, to carry less than the minimum number of credit hours. Physical examinations or consultations required annually of all students.

Elective work without credit arranged in social dancing, gymnastic dancing, swimming, fencing, basket ball, baseball, and other activities.

A professional course, 15-16, for those who desire to teach, will be offered for the first time in 1916-17. All senior students who desire a recommendation for teaching must also take Course 5-6 in 1916-17 whether or not it has been previously taken.

#### COURSES

No.	*Credit	Title	Offered to	Prereq. courses
1-2	None	Elem. Physical Training ...	Required of all new students	None
		11 MWF	3, 151, 153WGm	
		11 TThS	3, 151, 153WGm	
		3 MWF	3, 151, 153WGm	
		4 MWF	3, 151, 153WGm	
3-4	3	Intermediate Phys. Training	Soph., jr., sr.	Equivalent of 1-2 Kissock
		3 TTh	153WGm (One other hour to be arranged)	
5-6	3	Advanced Phys. Training..	Jr., sr.	3-4 Ladd
		4 TTh	153WGm (One other hour to be arranged)	
11	None	Preliminary Hygiene .....	Required of all new students	None
		12 M	201WGm	
		2 T	201WGm	
		11 W	201WGm	
		8 S	201WGm	
13	3	Personal Hygiene .....	Soph., jr., sr.	An. Biol. 1-2 Norris
		9 TThS	201WGm	
14	3	Hygiene of the Family....	Jr., sr.	13 Norris
		9 TThS	201WGm	
15-16	6	Principles of Phys. Educ...	Jr., sr.	1-2, 3-4, 21-22, 31-32 Kissock, Ladd, Tolg
		Lect. 10 TThS	201WGm	
		Lab. 2 MWF	3, 151, 153WGm	Kissock, Ladd, Tolg
21-22	None	Elem. Esthetic Dancing ....	All	None
		2 TTh	153WGm	Ladd
23-24	None	Intermed. Esthetic Dancing.	All	Equivalent of 21-22 Ladd
		4:30 M	153WGm	
25-26	None	Adv. Esthetic Dancing ....	Soph., jr., sr.	23-24 Ladd
		4:30 W	153WGm	

\* Six credits the maximum number that can be gained by taking courses in exercise (Courses 3-4; 5-6); only one of these courses may be taken for credit in a semester.

31-32	None	Folk Dancing and Organized Games .....	All	None
		10 MW	151WGm	Kissock
		3 TTh	151WGm	Ladd
33-34	None	Hockey, Basketball, Baseball	All	Permission of director
		4:30 MW	151WGm	Kissock
		4:30 WF	151WGm	Kissock
		4:30 MF	151WGm	Kissock
41-42	None	Fencing Hour .....	All	None
		2 F	153WGm	Kissock
43-44	None	Elementary Swimming .....	Required of soph. who need instruc- tion in swimming	None
		3 M	51WGm	Hansen
		4 M	51WGm	Hansen
		3 T	51WGm	Hansen
		4 T	51WGm	Hansen
		3 Th	51WGm	Hansen
		4 Th	51WGm	Hansen
		3 F	51WGm	Hansen
		4 F	51WGm	Hansen

Students who know how to swim are admitted to the natatorium at 12 TTh, at 4:30 MWF, and at 5:00 TTh. All students are admitted to roller skating at one o'clock MWF. Special corrective exercise may be arranged for at 1:00 TTh.

All of the above courses receive credit in the College of Education. For description see College of Science, Literature, and the Arts bulletin, pages 107-110.

## PHYSICS

Professors HENRY A. ERIKSON, ANTHONY ZELENY; Associate Professor LOUIS W. MCKEEHAN; Instructors ARTHUR H. COMPTON, ERNEST O. DIETERICH, PAUL D. FOOTE, PAUL E. KLOPSTEG, JOHN T. TATE.

### REQUIREMENTS OF THE DEPARTMENT

*For a Minor*, twelve credits.

*For a Major*, twenty-four credits.

*For B.A. with Honors*, the general requirements (page 15); work chosen from any courses above 40, except 90; and any course in mathematics open only to juniors and seniors if approved by the department. Mathematics 106, 107, 108, 140 have already been thus approved. Thesis in connection with any course in Physics above 150.

*For a Teacher's Certificate*, fourteen credits, including Courses 90.

Courses 21, 22, 31, 42, 44, 161, 52, 54, with prerequisites in mathematics comprise a three-year course in Physics beginning with the freshman year. It is designed to meet the needs of those who intend to take up the teaching of Physics or who are planning to enter the field of industrial research. It is recommended to those students desiring honors in Physics. Students who have completed Courses 1, 2, 3, 4, or Courses 7, 8, 9, 10, may continue with the second year of this course after conference with the department.

## COURSES

No.	Credit	Title		Offered to	Prereq. courses
1	3	General Physics	.....	Soph., jr., sr.	Math. 2 or 4
			1 M	30Ph	Zeleny
			8 TTh	16Ph	Klopsteg
			9 TTh	17Ph	Dieterich
			10 TTh	16Ph	Klopsteg
			11 TTh	16Ph	Klopsteg
			11 WF	16Ph	Klopsteg
2	3	General Physics	.....	Soph., jr., sr.	1 or 7
			1 M	30Ph	Zeleny
			8 TTh	16Ph	Klopsteg
			9 TTh	17Ph	Dieterich
			10 TTh	16Ph	Klopsteg
			11 TTh	16Ph	Klopsteg
			11 WF	16Ph	Klopsteg
3	1	General Laboratory Practice	....	Soph., jr., sr.	Registration in 1
			Ar Ar	23Ph	Ar
4	1	General Laboratory Practice	....	Soph., jr., sr.	See statement
			Ar Ar	23Ph	
7	4	General Physics	.....	Soph., jr., sr.	Math. 2 or 4, see statement
			1 F	30Ph	Erikson
			8 MWF	17Ph	Tate
8	4	General Physics	.....	Soph., jr., sr.	7, See statement
			1 F	30Ph	
			8 MWF	17Ph	
9	1	General Laboratory Practice	....	Soph., jr., sr.	See statement
	2-3		F	23Ph	
10	1	General Laboratory Practice	....	Soph., jr., sr.	See statement
	2-3		F	23Ph	
21	3	Elements of Mechanics	.....	Fr., soph.	High school Physics
			Lect. 10 ThS	16Ph	Erikson
			Lab. Ar Ar	31Ph	Erikson
22	3	Elements of Mechanics	.....	Fr., soph.	21, Math. 2 and reg. in Math. or 9b
			Lect. 10 ThS	17Ph	Erikson
			Lab. Ar Ar	31Ph	Erikson
31	3	Acoustics	.....	Soph., jr., sr.	See statement
			9 TThS	16Ph	Erikson
42	3	Heat	.....	Soph., jr., sr.	2, 8, or 22, Math. 2 or 4
			10 TThS	ArPh	Foote
44	1	Experiments in Heat	.....	Soph., jr., sr.	Regis. in 42
			Ar Ar	Ar	Foote
52	3	Light	.....	Soph., jr., sr.	2, 8 or 22, Math. 2 or 4
			9 TThS	16Ph	Erikson
54	1	Experiments in Light	.....	Soph., jr., sr.	Regis. in 52
			Ar Ar	ArPh	Erikson
81	2	Physical Manipulation and Laboratory Technique	.....	Soph., jr., sr.	2 and 4, 8 and 10, or 22
			2, 3, 4 TTh	2Ph	McKeehan
82	2	Physical Instruments of Precision	.....	Soph., jr., sr.	81
			2, 3, 4 TTh	2Ph	McKeehan

90	1	Teachers' Course .....	Sr.	2 and 4, 8 and 10, or 2 yrs. of Physics
		Ar Ar	Ar	Zeleny
121-122	6	Dynamics .....	Jr., sr., grad.	2 or 8 or 22 and Math. 51
		9 MWF	17Ph	State
125-126	6	Chemical Dynamics .....	Jr., sr.	8 and 10 or 22, Math. 51, Chem. 1-2 or 3-4
		8 TThS	17Ph	McKeehan
155	3	Spectrometry .....	Jr., sr., grad.	52 and 82
		1, 2, 3 MW	4Ph	Erikson
161	4	Electricity and Magnetism .....	Jr., sr., grad.	2 & 4, 8 & 10 or 22
		Ar Ar	ArPh	Zeleny
162a	2	Electrical Measurements .....	Jr., sr., grad.	161
		3, 4 M	31Ph	Zeleny
		10, 11 TTh	31Ph	Zeleny
162b	3	Electrical Measurements .....	Jr., sr., grad.	161
		Ar Ar	Ar	Zeleny
166	3	Electrical Meas. of Precision...	Jr., sr., grad.	162
		3, 4, 5 MF	31Ph	Zeleny
174	3	Radioactivity and Roentgen Rays	Sr., grad.	2 and 4
		Ar Ar	Ar	
177	3	Radioactivity .....	Sr., grad.	8 cred. in Physics and Math. 11
		4 MWF	15Ph	McKeehan
178	3	Radioactivity Measurements ....	Sr., grad.	177
		1, 2, 3 MW	15Ph	McKeehan
181	3	Adv. Physical Measurements ...	Sr., grad.	82
		2, 3, 4 MW	2Ph	McKeehan
182	3	Adv. Physical Measurements ...	Sr., grad.	181
		2, 3, 4 MW	2Ph	McKeehan
191a	3	Elem. Physical Investigation ...	Sr., grad.	82
		2, 3, 4 MW	2Ph	McKeehan
192a	3	Elem. Physical Investigation ...	Sr., grad.	82
		2, 3 MWF	15Ph	Erikson
191b	3	Elem. Physical Investigation ...	Sr., grad.	191
		2, 3 MWF	15Ph	Erikson
192b	3	Elem. Physical Investigation ...	Sr., grad.	191
		2, 3, 4 MW	2Ph	McKeehan

90. **TEACHERS' COURSE.** Methods of presentation; selection of lecture and laboratory experiments; laboratory management. ZELENY.

All of the above courses receive credit in the College of Education. For description see College of Science, Literature, and the Arts bulletin, pages 110-114.

## POLITICAL SCIENCE

Professors WILLIAM A. SCHAPER, CEPHAS D. ALLIN, JEREMIAH S. YOUNG;  
Instructors WILLIAM ANDERSON, BEN A. ARNESON; Assistant PERCIVAL  
W. VIESSELMAN.

### REQUIREMENTS OF THE DEPARTMENT

*For a Minor*, twelve credits.

*For a Major*, twenty-four credits.

*For B.A. with Honors*, see general requirements (see page 15).

For Teacher's Certificate in Government, nine credits in Political Science and eighteen credits in History.

The Departments of Economics, Political Science, History, and Sociology and Anthropology constitute a social science group. The subjects are intimately inter-related, and they are all of especial importance to students who intend to engage in law, business, public service at home or abroad, journalism, the work of charities and corrections, or to give instruction in one of the social sciences. Students who are interested in the work of any one of the departments of the social science group ought to be familiar with at least the elements of the subjects offered in the other departments. A student who takes his major in any one of them ought to have more than the elements of the others.

#### COURSES

##### *Introductory Courses*

No.	Credit	Title	Offered to	Prereq. courses
1a	3	American Government .....	Soph., jr., sr.	None
		9 MWF	109MA	Allin
		9 TThS	102MA	Schaper
		10 MWF	209MA	Anderson
		10 TThS	Ar.	Viesselman
		11 TThS	202MA	Allin
1b	3	American Government .....	109MA	Anderson
		2 MWF	109MA	Anderson
		9 TThS	109MA	Anderson
		10 MWF	202MA	Allin
		2 MWF	209MA	Anderson

##### *General Courses*

3	3	Comparative Government .....	Soph., jr., sr.	1
	10	TThS	102MA	Allin
5	3	European Municipal Admin. . .	Soph., jr., sr.	1
	11	MWF	102MA	Schaper
6	3	American Municipal Admin. . .	Soph., jr., sr.	1
	11	MWF	109MA	Schaper
7a	3	State and Local Government...	Soph., jr., sr.	1
	9	TThS	109MA	Anderson
	2	MWF	209MA	Viesselman
7b	3	State and Local Government...	Soph., jr., sr.	1
	10	MWF	109MA	Anderson
	11	TThS	202MA	Viesselman
9	3	Colonial Administration .....	Soph., jr., sr.	1
	See statement			
*51	3	Business Law, I .....	Jr., sr.	6 cred. in Pol. Sci., or 6 in Econ., or 3 in each
		9 MWF	202MA	Viesselman
*52	3	Business Law, II .....	Jr., sr.	51
		9 MWF	202MA	Viesselman
*54	3	Latin American Relations.....	Jr., sr.	6 credits
		9 MWF	213MA	Schaper
*58	3	American Diplomatic Problems.	Jr., sr.	6 credits
		11 TThS	213MA	Anderson
*59	3	Municipal Corporations .....	Jr., sr.	6 credits
		11 TThS	102MA	Anderson

*Special Courses*

25	3	American Govt. (Engineers) ..	Jr., sr.	None
	8	TThS	136ME	Viesselman
26	3	Commercial Law (Engineers) ..	Jr., sr.	25
	8	TThS	136ME	Viesselman
*56-57	3	Teachers' Course .....	Jr., sr.	See statement
	4	MW	Lib	Schaper

*Advanced Courses*

*101	3	Constitutional Law .....	Jr., sr., grad.	6 credits
	9	MWF	213MA	Schaper
*102	3	Modern Political Thought .....	Jr., sr., grad.	6 credits
	9	TThS	102MA	Schaper
*104	3	Political Parties .....	Jr., sr., grad.	6 cred. or 1 & Hist. 5-6
		See statement		
*105	3	Comparative Administration ...	Jr., sr., grad.	6 credits
	10	MWF	109MA	Arneson
*106	3	Legislative Power and Methods.	Jr., sr., grad.	6 credits
	10	MWF	102MA	Arneson
*108	3	Police Power .....	Jr., sr.	6 credits
		See statement	102MA	Viesselman
*109	3	Diplomacy .....	Jr., sr., grad.	6 cred. or 1 and History 156
	2	MWF	213MA	Allin
*110	3	International Law .....	Jr., sr., grad.	1 and 3 or 109
	2	MWF	102MA	Allin
*112	3	Comparative Federal Govt. ....	Jr., sr., grad.	6 credits
	11	TThS	102MA	Allin
*114	3	Govt. of the British Empire...	Jr., sr., grad.	6 cred. or 1 & Hist. 7
	10	TThS	102MA	Allin

56-57. TEACHERS' COURSE. Lectures on teaching Government in the secondary schools, given in coöperation with the Department of History and credited as part of History 56-57. SCHAPER.

All of the above courses receive credit in the College of Education. For description see College of Science, Literature, and the Arts bulletin, pages 114-118.

## RHETORIC AND PUBLIC SPEAKING

Professor JOSEPH M. THOMAS, MARGARET SWEENEY; Assistant Professors \*DANIEL FORD, HALDOR GISLASON, CHARLES W. NICHOLS, SIDNEY F. PATTISON, ANNA H. PHELAN, FRANK M. RARIG, CHARLES E. SKINNER, HELEN A. WHITNEY; Instructors CECIL C. BEAN, ELBRIDGE COLBY, ELIZABETH HAWTHORN, GEORGE E. HEDGER, CYRIL A. HERRICK, JAMES T. HILLHOUSE, ELIZABETH JACKSON, MARTIN B. RUUD, SANFORD M. SALYER, FRANK SMOYER, ARTHUR J. TIEJE, HOWARD T. VIETS; Assistant RAY M. WILCOX.

## REQUIREMENTS OF THE DEPARTMENT

For a Major, twenty-four credits, which may include not more than six credits in Public Speaking.

For a Minor, twelve credits in addition to Course 1-2, including Courses 11-12 or 15-16.

\* Absent on leave, 1916-17.

For a Minor in Public Speaking, twelve credits in Public Speaking.

For B.A. with Honors, the general requirements (page 15). A reading knowledge of either Latin, French, or German. At least fifteen credits in departmental starred courses, four of these credits to be in Course 119-120.

For a Teacher's Certificate in English

- A. English as the major subject of teaching; Rhetoric 1-2, either 11-12 or 15-16, and 41-42; English 1-2, and six additional hours, three of which are to be in courses numbered above 100.
- B. English as a minor subject of teaching; Rhetoric 1-2, either 11-12 or 15-16; English 1-2, and at least three additional hours.

To be recommended, a student must secure an average of at least one and one-half honor points for each credit hour of all the work taken in the Department of English and Rhetoric.

For a Teacher's Certificate in Public Speaking. A student actively interested in some phase of Public Speaking either as a member of a literary or debating society, or as a participant in a contest or dramatic performance, or as a lecturer; must have the approval of the Department of Rhetoric and Public Speaking; and must complete the following courses: Rhetoric 1-2, 11-12 or 15-16, 41-42, and six additional hours in Public Speaking.

#### COURSES

No.	Credit	Title	Offered to	Prereq. courses
1-2	6	Composition and Rhetoric ...	Fr.	None
	8	MWF	Room to be assigned on registration	
	9	MWF		
	10	MWF		
	11	MWF		
	2	MWF		
	3	MWF		
	4	MWF		
	8	TThS		
	9	TThS		
	10	TThS		
	11	TThS		
1b	3	Composition and Rhetoric...	Fr.	None
	11	MWF	304F	
	3	MWF	303F	
	11	TThS	311F	
2a	3	Composition and Rhetoric....	Fr.	None
	11	MWF	304F	
	3	MWF	303F	
3-4	6	Composition for Engineers..	Fr., eng.	None
		See program for the College of Engineering		
11-12	6	Exposition, Description, Narration .....	Soph., jr., sr.	1-2
	9	MWF	304F	Hillhouse
	11	MWF	306F	Gilbreath
	2	MWF	304F	
	9	TThS	311F	Ruud
	10	TThS	306F	Phelan

15-16	6	Exposition and Argument...	Soph., jr., sr.	1-2
	10	MWF	303F	Salyer
	11	TThS	303F	Tieje
31	2	Technical Writing .....	Sr., eng.	3-4
		See program of the College of Engineering		
41-42	6	Public Speaking .....	Soph., jr., sr.	1-2
	8	MWF	308F	Gislason
	2	MWF	308F	Wilcox
	8	TThS	308F	Wilcox
	9	TThS	308F	Gislason
	10	TThS	308F	Rarig
	11	TThS	308F	Wilcox
41	3	9 MWF	308F	Rarig
45-46	6	Argumentation and Debate..	Soph., jr., sr.	See statement
	10	MWF	308F	Gislason
47	3	Advanced Debate .....		See statement
	Ar	Ar	308F	Gislason, Rarig
†80a	3	Teachers' Course .....	Jr., sr.	See statement
	3-430	WF	113Ed	Inglis
†80b	3	Teachers' Course .....	Jr., sr.	See statement
	3-430	WF	113Ed	Inglis
†81-82	6	Interpretative Reading .....	Jr., sr.	1-2, 41-42
	11	MWF	308F	Rarig
*83-84	6	Advanced Public Speaking...	Jr., sr.	1-2, 41-42
	3	MWF	308F	Rarig
*102	3	Versification .....	Jr., sr., grad.	1-2, 11-12 or 15-16
	10	TThS	302F	Nichols
*103-104	6	Studies in Structure and Style .....	Jr., sr., grad.	1-2, 11-12 or 15-16
	2	MWF	311½F	Whitney
*107	3	Imitative Writing .....	Jr., sr., grad.	1-2, 11-12 or 15-16
	11	MWF	311F	Thomas
*110	3	Short-story Writing .....	Jr., sr., grad.	1-2, 11-12 or 15-16
	11	MWF	311F	Thomas
*111-112	6	Essay Writing .....	Jr., sr., grad.	1-2, 11-12 or 15-16
	11	TThS	302F	Pattison
*115-116	6	Dramatic Technique .....	Sr., grad.	See statement
	1-3	W	302F	Skinner
	2	F		
*119-120	4	Seminar in Writing .....	Sr., grad.	See statement
	2-4	T	302F	Thomas
*201-202	6	Seminar in Rhetoric.....	Sr., grad.	See statement
	2-4	Th	302F	Sweeney

† Carries credit only in the Department of Education.

80a,b. TEACHERS' COURSE. Methods of teaching English in high schools. Course of study, textbooks, and equipment; visits to Minneapolis and St. Paul high schools; theme-correcting. Open to juniors, seniors, and graduates, qualifying for *practice teaching*. Credit only in Education. INGLIS.

All of the above courses receive credit in the College of Education. For description see College of Science, Literature, and the Arts bulletin, pages 118-122.

### ROMANCE LANGUAGES

Professors EVERETT W. OLMPSTED, COLBERT SEARLES; Assistant Professors JULES FRELIN, RUTH S. PHELPS; Professorial Lecturers PAUL D'EQUILLY MORIN, PEDRO HENRÍQUEZ UREÑA; Instructors HARRY E.

ATWOOD, FRANCIS B. BARTON, NELSON F. COBURN, MARCEL MORAUD, WILLIS J. PLUMMER, EDWARD H. SIRICH; Teaching Fellows GEORGE S. BARNUM, ELLSWORTH CARLSON.

#### REQUIREMENTS OF THE DEPARTMENT

*For a Minor*, twelve credits not including Course 1.

*For a Major*, twenty-four credits.

*For a B.A. with Honors*, general requirements (page 15); a reading knowledge of Latin or German and two years work in Spanish or Italian. In the junior year, Courses 65-66, 101-102, 61-62, 63-64; in the senior year Courses 103-104, 107-108, 109-110, 113-114. Substitutions for these courses may be granted by the department in special cases. Alteration of courses required in the junior and senior years is allowable.

*For Major Recommendation for Teacher's Certificate*. In addition to Course 1a and 3a, twenty-six credits.

*For Minor Recommendation for Teacher's Certificate*. In addition to Course 1a and 3a, twelve credits.

*Prerequisites for Teacher's Course*: In addition to Course 5-6, one Conversation-Composition Course and one Literary Course.

#### COURSES

No.	Credit	Title	Offered to	Prereq. courses
1a	6	Beginning French .....	All	None
		8 MTWThFS	201F	
		9 MTWThFS	201F	
		10 MTWThFS	227F	
		11 MTWThFS	226F	
1b	6	Beginning French .....	All	None
		10 MTWThFS	205F	
		11 MTWThFS	227F	
2a	3	Beginning French (second half of 1a) .....	All	1 year high school French
		9 MWF	227F	
3a	6	Intermediate French .....	All	1a or equivalent
		10 MTWThFS	205F	
		11 MTWThFS	25F	
3b	6	Intermediate French .....	All	1a or equivalent
		8 MTWThFS	201F	
		9 MTWThFS	201F	
		10 MTWThFS	227F	
		11 MTWThFS	226F	
4	6	Survey French Literature ....	All	3a or equivalent
		9 MTWThFS	227F	Barton
5-6	6	Surv. French Lit. (yr. course)	All	3a or equivalent
		9 TThS	202F	
		10 TThS	202F	Phelps
		11 TThS	5F	Atwood
		2 MWF	15F	Sirich
7-8	2	Element. French Convers.....	All	3a or equivalent
		9 MW	202F	Barton
		9 TTh	5F	Frelin
		3 MW	227F	

9-10	2	Elementary French Compos...	All	3a or equivalent
		9 F	202F	
		9 S	5F	Barton
		3 F	227F	Frelin
31a	6	Beginning Spanish .....	All	None
		10 MTWThFS	109F	Henríquez
		9 MTWThFS	301F	Plummer
31b	6	Beginning Spanish .....	All	None
		9 MTWThFS	226F	Frelin
33-34	6	Begin. Spanish (yr. course) ..	All	None
		8 TThS	202F	Coburn
		11 MWF	201F	Olmsted
		11 TThS	205F	Plummer
35a	6	Intermediate Spanish .....	All	31a or equivalent
		See statement		
35b	6	Intermediate Spanish .....	All	31a or equivalent
		10 MTWThFS	226F	Henríquez
		9 MTWThFS	15F	Plummer
37-38	6	Intermed. Spanish (yr. course)	All	31a or equivalent
		9 MWF	110F	Coburn
		11 TThS	110F	Henríquez
39-40	6	Spanish Lit. of 19th Century	All	35a or equivalent
		9 MWF	5F	Henríquez
41-42	2	Elem. Spanish Conversation..	All	35a or equivalent
		2 MW	226F	Plummer
43-44	2	Elem. Spanish Composition ..	All	35a or equivalent
		2 F	226F	Plummer
51-52	6	Beginning Italian .....	All	None
		3 MWF	201F	Phelps
53-54	6	Repres. Italian Authors .....	Soph., jr., sr.	51-52 or equivalent
		11 TThS	201F	Phelps
61-62	2	Adv. French Conversation ...	Jr., sr.	7-8 or equivalent
		11 TTh	202F	Morin
63-64	2	Adv. French Composition' ....	Jr., sr.	9-10 or equivalent
		11 S	202F	Morin
75-76	6	French Lit. of 19th Century..	Soph., jr., sr.	5-6 or equivalent
		11 TThS	15F	Barton
101-102	6	French Lit. of 18th Century.	Jr., sr., grad.	5-6 or equivalent
		11 MWF	15F	Sirich
103-104	6	French Lit. of 17th Century.	Jr., sr., grad.	5-6 or equivalent
		10 MWF	201F	Olmsted
105-106	6	French Lit. of 16th Century.	Jr., sr., grad.	101-102; 103-104; or equivalent
		11 MWF	Seminar	Searles
107-108	4	French Oral Diction .....	Jr., sr., grad.	61-62 or equivalent
		10 MW	202F	Morin
109-110	2	French Syntax .....	Jr., sr., grad.	63-64 or equivalent
		10 F	202F	Morin
111-112	4	Lectures in French .....	Jr., sr., grad.	5-6; 61-62 or equiv.
		2 MW	202F	Morin
113-114	4	French Lit. Classicism .....		
		See statement		
115-116	4	French Lyric Poetry .....	Sr., grad.	103-104 or equiv.
		11 TTh	Seminar	Searles
117-118	4	French Dramatic Lit. .....	Sr., grad.	103-104 or equiv.
		10 TTh	Seminar	Olmsted
131-132	4	Adv. Spanish Composition ...	Jr., sr., grad.	41-42 or equivalent
		2 MW	227F	Henríquez

133-134	4	Spanish Lectures .....	Jr., sr., grad.	43-44 or equivalent
	2	F	227F	Henriquez
135-136	2	Spanish Novel (Not given 1916-1917)		
151-152	4	Dante, Petrarch, Boccaccio....	Jr., sr., grad.	51-52 or equivalent
	11	MW	202F	Phelps
153-154	2	Dante, Petrarch, Boccaccio (in English) .....	Jr., sr., grad.	51-52 or equivalent
	11	F	202F	Phelps
161-162	2	Teachers' Course .....	Jr., sr., grad.	See above
	2	Th	201F	Olmsted, et al.

NOTE: Course 7-8 may be taken only with 9-10. 9-10 may be taken separately. Course 41-42 may be taken only with 43-44. 43-44 may be taken separately. Course 61-62 may be taken only with 63-64. 63-64 may be taken separately. Course 151-152 may be taken only with 153-154. 153-154 may be taken separately. Courses 1a, 3a, 31a, 35a, 4 are double courses. Students are advised to take Course 75-76 as a natural preparation for Course 101-102 and 103-104. Permission to register for courses from 75-76 to 161-162 inclusive may be granted by the department in special cases. Both semesters of any year course must be completed before credit is allowed for the first semester. The preceding statement applies also to Courses 1a and 3a for freshman and Courses 31a and 35a for freshman.

161-162. TEACHERS' COURSE. Lectures and discussions on methods, textbooks, etc. OLMS TED, et al.

All of the above courses receive credit in the College of Education. For description see College of Science, Literature, and the Arts bulletin, pages 122-127.

### SCANDINAVIAN

Professors GISLE BOTHNE, ANDREW A. STOMBERG.

#### REQUIREMENTS OF THE DEPARTMENT

For a Minor, twelve credits, not including Courses 1 and 5.

For a Major, twenty-four credits.

For B.A. with Honors, the general requirements (page 15), and six credits of Scandinavian in addition to what is required for a major.

#### COURSES

No.	Credit	Title	Offered to	Prereq. courses
1	6*	Beginning Norwegian .....	All	None
	8	MTWThFS	206F	1
2	6	Intermediate Norwegian ....	All	1
	8	MTWThFS	206F	1
3-4	6†	Advanced Norwegian .....	Soph., jr., sr.	2
	9	TThS	206F	Bothne
5	6*	Beginning Swedish .....	All	None
	8	MTWThFS	F	Stomberg
6	6	Intermediate Swedish .....	All	5
	8	MTWThFS	F	Stomberg
7-8	6†	Advanced Swedish .....	Soph., jr., sr.	6
	9	MWF	206F	Stomberg
9	2	Beginning Norwegian .....	See statement	None
10	2	Advanced Norwegian .....	See statement	9
11-12	4	Norwegian Literature .....	See statement	10
	4 & 5	T	206F	Bothne
101-102	6†	Modern Norwegian Literature	Jr., sr.	3-4
	10	TThS	206F	Bothne

103	3	Earlier Norwegian Literature	Sr., grad.	101-102
		11 TThS	206F	Bothne
104	2	Henrik Ibsen .....	Sr., grad.	101-102
		11 TTh	206F	Bothne
105-106	6	History of Northern Europe.	Jr., sr., grad.	See statement
		11 MWF	206F	Stomberg
107-108	6†	Swedish Literature .....	Jr., sr., grad.	7-8
		2 MWF	206F	Stomberg
109	2	Strindberg .....	Sr., grad.	107-108
		Ar Ar	206F	Stomberg
110	2	Teachers' Course in Norweg.	Sr., grad.	3-4
		4 & 5 Th	206F	Bothne
113-114	4	Old Norse (Icelandic) .....	Sr., grad.	See statement
		Ar Ar	206F	Bothne
116	2	Teachers' Course in Swedish.	Sr., grad.	7-8
		Ar Ar	206F	Stomberg

\* Freshmen must complete intermediate course before credit is given for beginning course.

† Both semesters must be completed before credit is given for the first semester.

110. TEACHERS' COURSE IN NORWEGIAN. For students who expect to teach Norwegian in the high schools. BOTHNE.

116. TEACHERS' COURSE IN SWEDISH. For students who expect to teach Swedish in the high schools. STOMBERG.

All of the above courses receive credit in the College of Education. For description see College of Science, Literature, and the Arts bulletin, pages 127-129.

## SOCIOLOGY AND ANTHROPOLOGY

Professors ALBERT ERNEST JENKS, ARTHUR J. TODD; Assistant Professor JOSEPH PETERSON; Instructors PAUL I. NEERGAARD; Lecturers FRANK J. BRUNO, OTTO W. DAVIS, CHARLES G. STILLMAN, GEORGE EDGAR VINCENT; Superintendents of State Board of Control Institutions.

### REQUIREMENTS OF THE DEPARTMENT

*For a Minor*, twelve credits.

*For a Major*, twenty-four credits.

*For B.A. with Honors*, see general requirements (page 15).

*For Recommendation for Teaching*, credits in the following courses: 1, 4, 6, and two advanced courses.

Modern university education is not complete unless the graduate has obtained the social point of view. To this end the department offers elementary courses dealing with peoples, with social forces, institutions, and movements. Its more advanced courses are designed especially for students majoring in the Social Sciences; namely, Sociology and Anthropology, Economics, History, and Political Science.

## COURSES

## Introductory Courses

No.	Credit	Title	Offered to	Prereq. courses
1a	3	General Introduction .....	Soph., jr., sr.	None
		8 MWF	203He(F)	Neergaard
		10 MWF	9F	Jenks
		10 TThS	9F	Todd
		2 MWF	301F	Neergaard
1b	3	2 MWF	301F	Neergaard
4	3	Cult. Anthropology .....	Soph., jr., sr.	1a or 1b
		2 MWF	9F	Jenks
6	3	Soc. Reform Movements....	Soph., jr., sr.	1a or 1b
		11 TThS	9F	Todd

## Special Courses

7	None	Studies in Soc. Psychology.	Stud. in Dept.	None
		See statement		Vincent

## General Courses

9	3	Treatment of Depend. & Def..	Jr., sr.	1
		8 TThS	9F	Bruno
10	3	Child Welfare .....	Jr., sr.	1 and 9
		8 TThS	9F	Stillman
11	2	Housing Problems .....	Jr., sr.	1 and one other
		9 MW	9F	Davis
12	3	Ethnology .....	Jr., sr.	1 and one other
		See statement		Jenks
14	3	Rural Community .....	Jr., sr.	1
		8 MWF	203He(F)	Neergaard
21-22	1	Field Work .....	Jr., sr.	See statement
		Ar Ar	Ar	Ar

## Advanced Courses

102	3	Social Theory .....	Jr., sr., grad.	1, 9 or 10, and 1 other
		9 TThS	9F	Neergaard
104	2	State Care of Dep., Def., and Delinquents .....	Jr., sr., grad.	1, 9 or 10, and 1 other
		3, 4 F	9F	Todd and state experts
106	3	Treatment of Delinquents ..	Jr., sr., grad.	1, 9 or 10, and 1 other
		8 MWF	9F	Todd
108	3	Philippine People .....	Jr., sr., grad.	1 and one other
		10 MWF	9F	Jenks
110	3	Physical Anthropology .....	Jr., sr., grad.	See statement
		2 MWF	9F	Jenks
112	3	American Negro .....	Jr., sr., grad.	1, 12, or 113 & 1 other
		See statement	9F	Jenks
113	3	American People .....	Jr., sr., grad.	1, and two others
		11 MWF	9F	Jenks
114	3	American People (continued)	Jr., sr., grad.	1, 113, and one other
		11 MWF	9F	Jenks
117	3	Social Psychology .....	Jr., sr., grad.	See statement
		9 TThS	311½F	Peterson
119	3	The Family .....	Jr., sr., grad.	9 credits
		11 TThS	9F	Todd
120	3	Social Progress .....	Sr., grad.	See statement
		10 TThS	9F	Todd
121-122	2(each)	Seminar in Sociology....	Sr., grad.	For. sr. 4 correlated
		See statement	9F	Todd
123	3	Seminar in Anthropology...	Sr., grad.	For. sr. four related courses
		2, 3 Th	205L	Jenks

All of the above courses receive credit in the College of Education. For description see College of Science, Literature, and the Arts bulletin, pages 129-133.

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